

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXX.

NEW YORK, SATURDAY, JANUARY 2, 1897.

No. 1.

ORIGINAL ARTICLES.

THE MANAGEMENT OF PNEUMONIA PATIENTS.¹

By SIMON BARUCH, M.D.,
OF NEW YORK.

My chief reason for bringing so trite a subject before you is that the fatality of pneumonia and the frequency of the discussion of its treatment indicate that it is very far from being settled in the minds of the profession. Another reason is a desire to summarize a personal experience extending over one-third of a century in city and country, private and hospital practice, and which represents a therapeutic evolution, a consideration of which may contribute an humble stone to that therapeutic structure which can be reared only by the aggregation of individual observations. It is hoped that the discussion of this subject to-night may furnish some clue to a better management of patients suffering from this very prevalent and fatal malady. The most effective therapeutics may be evolved only from the most thorough comprehension of the nature of disease. Whether stumbling upon it accidentally, as in the case of quinin for malarial diseases, or by a gradual evolution, as in the Brand bath for typhoid fever, or by a process of reasoning, as in the thyroid-gland treatment for myxedema, our therapeutic achievements are in proportion to our mastery of the nature of the disease.

The history of pneumonia illustrates this idea. I will not weary you with the recital of its historical stages, but confine myself to personal observations. The teaching of the schools and text-books in 1859-'62, and the practice in the military hospitals in which I served as interne, were clearly antiphlogistic, because the conception of lobar pneumonia at that time was a pure inflammation of the lung, whose tendency was to destroy life by apnea (Watson). Delirium, pyrexia, and other threatening manifestations were regarded as "direct evidence that the pectoral mischief is telling through the circulation of venous blood through the brain." It was but a legitimate deduction from this view that the chief agents to bring about recovery were the so-called antiphlogistics, by which it was hoped to throttle the local disease. It would be a bootless task to review the contending opinions prevailing before and at the time mentioned.

¹ Read before the New York Academy of Medicine, December 3, 1896.

Long before this period Dietl of Vienna had learned from the homeopaths (who were genuine Hahnemannians, and not the mongrel breed met with to-day) that pneumonia is a self-limited disease, tending to terminate favorably if the patient's vital forces be not despoiled by blood-letting, mercurials, and starvation.

Although he combated the prevailing "hematomania" with energy, he failed to make any permanent impression. In the first decennium of my active practice, Hughes Bennet and Austin Flint labored to inculcate similar doctrines. Their efforts were more successful, because the medical profession was beginning to emancipate itself from the thralldom into which that bloodthirsty monster phlogosis had cast them. In Vienna, a therapeutic nihilism attained ascendancy, which, though not as fatal, did not fill the full measure of the physician's duty. Then came the quinin, aconite, and digitalis, and, later, the antipyretic era, from which the profession has not yet quite emancipated itself.

We stand to-day on the threshold of a view of croupous pneumonia which will contribute more to the saving of lives than all the doctrines and remedies suggested since the days of Hippocrates. The student is no longer taught, as I was taught, that the pneumonia patient dies from apnea. Heart failure is the specter that now stands at the bedside of the patient in this and, for that matter, in most other acute diseases. But we are, fortunately, not lapsing into the Brunonian theory of asthenia, which demanded enormous quantities of alcoholic and other stimulants. To-day it is an almost universal axiom in the therapeutics of croupous pneumonia to prevent and combat heart failure. The view that *this is an infectious disease, whose chief recognisable lesion is in the lungs, but whose lethal tendency is in the overwhelming of systemic force and vigor*, is obtaining more and more recognition.

I would go further than this, even. Careful clinical observation and a judicious sifting of the testimony of reliable practitioners have brought us to the belief that croupous pneumonia is no more a lung disease than is typhoid fever a bowel disease. Whenever this doctrine shall receive universal acceptance, we will cease to *treat the disease*, and we shall be prepared for a more effective management of patients suffering from it.

It may be said that this idea is obtaining adherents

in certain quarters. All of our recent text-books insist upon maintaining the patient's vital powers as the main indication. That great American clinician, Austin Flint, read a paper before the State Medical Society in 1877, on "Pneumonic Fever," in which he referred to the analogy to typhoid fever. My interest being aroused, I discovered that, 200 years ago, Huxham had insisted upon the infectious character of pneumonia. Thus history has repeated itself in this as in other diseases, *before* the microorganisms assigned to them had been discovered.

As to *etiology*: The present state of our knowledge may be briefly stated to be, that while cold may be a predisposing factor which diminishes the patient's resisting power, the Sternberg-Fraenkel diplococcus is an important factor in the production of croupous pneumonia, because it is present in about seventy-five per cent. of cases, although in some cases there are doubtless other organisms present. Sternberg and others have found the diplococcus in the mouths of healthy persons. Its mode of entrance into the lung and its pathogenic course are not yet clearly determined; its aspiration from the mouth seems to be claimed by most observers. The presence of some constitutional depression is a potent etiological factor. Age is a predisposing and exempting factor, inasmuch as young children are rarely attacked; while it is most prevalent among adults, and liability to it diminishes with advancing years.

Typhoid fever presents analogous conditions. The Eberth bacillus enters through the mouth and is lodged and developed in Peyer's glands. The chief differences are that the Eberth bacillus is not, like the diplococcus, capable of producing other diseases, and that the life period of the former is three to four weeks, while that of the latter is five to ten days. The analogy certainly holds with regard to the influence of depreciated constitution and age as etiological factors.

Analogy in Symptoms.—In pneumonia we have an increased leucocytosis, pyrexia, and more or less overwhelming of the nervous system, which is reflected to the heart, lungs, and other organs. The dyspnea is, I believe, more the expression of a special toxemia than of the crippling of the lung, because it is not always in proportion to the extent of the lesion, and it disappears at the crisis, while the lung is still greatly obstructed by the exudates. In addition, we have cough, which of course is due to the disturbance of the lungs and bronchi.

We have practically the same manifestations in typhoid fever, differing only in regard to the habitat of the microorganism, diarrhea taking the place of cough. The fever runs a different course because

of the difference in the life-period of the organisms involved in each disease.

The most striking and important similarity is that the chief point of attack, in both diseases, is upon the nervous system; the toxemia resulting from the life and death of the microorganisms spends its chief force upon the nerve centers. This explains the well-recognized clinical fact that the general symptoms are rarely a correct index to the local lesion. Dyspnea and fever, especially, may be extreme, and the case may terminate fatally, with slight involvement of the lung, just as we may observe the most serious general condition in typhoid, without evidences of local lesion.

Crisis in croupous pneumonia is signaled by complete cessation of all the general symptoms, because the life-period of the microorganisms is terminated. And yet the lung remains more or less solidified by exudates, as is evident from the physical signs continuing. So do the general symptoms of typhoid fever cease with the cessation of the life-period of the Eberth bacillus, although the intestinal lesions are still so far from being removed that great care needs to be exercised with regard to diet, rest, and other preventive measures.

The *prognosis* of croupous pneumonia and typhoid fever bears close resemblance in many respects. The effect of previous mode of life, habits, and environment, before and during the illness, upon the issue of the case, is very much alike in both diseases, as is the influence of childhood upon the prognosis.

Having as briefly as possible in the time at my disposal traced the close analogy in the etiology, symptoms, and prognosis of these diseases, I propose to deduce from this analogy the expediency of following in pneumonia, as nearly as the differences indicated above may admit, the line of management which has afforded the best results in typhoid. We have learned from sad experience that the chief indication in typhoid fever is to enhance the patient's resisting capacity to the lethal agencies evolved by the infection-process.

It is my aim to emphasize a similar cause of action in pneumonia. The management of the pneumonic patient, which I propose to present to your consideration, is the result of an evolution from the methods, which some of you, like myself, have been taught, and which, doubtless, some of you, as I, have practised for years.

A distinct mental picture of my first case of croupous pneumonia rises before me. The patient was a young soldier, a hardy mountaineer, in whom a large portion of the right lung was consolidated. The chief surgeon of the hospital directed, as was the custom in 1862, flax-seed poultices to the chest, and a mercurial

purgative, to be followed by nitrous powders, a preparation which is happily unknown to our recently graduated colleagues, consisting of 8 grains of nitrate of potassium with $\frac{1}{2}$ grain of calomel and $\frac{1}{8}$ grain of tartarized antimony, these powders to be administered every three hours until the gums were touched; *i. e.*, until ptialism ensued. Wet cups to the chest were added to emphasize the doctors' blows upon the enemy—inflammation of the lungs—with a view to deplete the latter. The inflammation was resolving beautifully when the left lung was attacked. The same treatment was resorted to, with the exception of a blister being substituted for the wet cupping as a concession to the evidently enfeebled condition of the patient. This lung also was beginning to resolve, but the vital powers had been so exhausted by the depleting measures, that the system was unable to furnish the necessary conditions for restoration. The result was that the disease was practically cured, but the patient died from sheer depletion, as evidenced by a necrotic gray deposit on the blistered surface.

This result of what was the classical treatment at that time (1862), made a deep impression on my youthful mind as a crucial test, and I say it with some satisfaction that no patient of mine has ever been salivated or cupped, and very few blistered since that time. I continued for a long time to commence the treatment with a mercurial purge, to give veratrum to reduce the pulse, to poultice the chest for comfort to the patient, and to give small doses of tartar emetic as an expectorant, and morphin to allay the cough. But the teachings of Hughes Bennet Austin Flint, and Horatio C. Wood, gradually weaned me from this mildly spoliative practice. Until a few years ago I felt as helpless in a case of pneumonia as I did at that time in typhoid fever. Recovery in both diseases seemed to be the result of conditions over which my control was feeble or lacking. The patient's constitution, the type of the disease, and his environment played the chief rôle. Treatment was symptomatic in both diseases—expectant it was termed—and not inaptly, for I always expected something to happen which I seemed powerless to prevent. When I learned the true principles and value of the Brand method in typhoid fever, a positive treatment was at my command by which, *if called early*, serious and fatal complications, against which I had formerly felt impotent, could be prevented. For the comfort and the sense of security derived from this method, since I mastered its technic, I shall ever be grateful to its author. And herein I was recently corroborated by Gilman Thompson, Delafield, Ball, and Northrup in the "Section of Practice."¹

¹ *Med. Record*, November 7, 1896.

It has been my ardent desire to reach a similarly comforting attitude in pneumonia. Weary of the expectant plan, and observing its enormous fatality, especially in those depreciated by faulty modes of life and habits, I looked to hydrotherapy for succor. While I cannot say that the latter has been reached to an entirely satisfactory degree, observation and reflection have produced a method of management whose clinical value deserves to be tested further.

The prevailing type of the disease should be carefully considered. It has been demonstrated by careful observers that the vaunted success of certain methods of treatment may be attributed to a change of type in the disease and the previous conditions of the patient. Any new treatment should therefore be approached with caution and judgment.

Dr. Leaming, whom many of you remember as a practical, safe clinician, gives a graphic delineation of this idea in his little book published in 1884.

"When I began my professional career, I believed, as I had been taught, that active interference was necessary in every step of this disease, to prevent destructive inflammation. But I soon found, and by accident, that cases would get well without active treatment; that the expectant plan and wise management was the best; simple medication, with stimulants and supporting alimentation. The mortality was so small that it seemed unnecessary for an uncomplicated case to reach a fatal result. When the fatal form of pneumonia began to occur in New York, I, with other physicians, was surprised at the failure of the managing method. The failure of the latter rendered a resort to the heroic method a necessity."

The type of pneumonia in this city appears to have remained as grave as it was in the time of which Leaming wrote. We still see and hear of cases dying rapidly. As recent sad illustrations in our own ranks may be cited the deaths of the lamented Loomis and of the brilliant young clinician Roosevelt. *In hospital and private practice this disease is more fatal than any other acute disease of adults.* In the New York City Board of Health statistics it ranks next to phthisis in fatality. I apprehend that the chief reason of this great fatality may be sought for and found in the helplessness of physicians in the presence of this fearful disease.

It follows, therefore, that the first consideration in the management of these cases is a due regard for the prevailing type.

Complete rest of body and mind, and good nursing, are essentials in furthering recovery. This cannot be too earnestly urged upon the patient and his family. The ventilation of the sick-room, too, which is much opposed by the laity, should be anx-

iously watched by the medical attendant, who is too prone to yield to existing prejudices, and thus to become an unwilling accomplice in depriving the patient of this greatest pabulum in infectious diseases—fresh, pure air. The patient and family should be positively assured that there is no danger of taking cold if the body temperature is elevated to any considerable extent. In summer and winter the air of the sick-room should be constantly renewed, even at the cost of reducing its temperature in winter to an extent which may be uncomfortable to the nurses. During the late war, cases of pneumonia treated in tents in rigorous weather did far better than those treated in improvised hospital buildings.

The diet should be restricted to milk and farinaceous broths, administered with precision, while the patient is awake, every two hours, in quantities ranging from four to eight ounces. I do not share the horror of asthenia in this disease, which is only too prevalent, and leads to undue feeding. The disease is of short duration; it not infrequently suddenly attacks well-nourished persons in the midst of comparative good health. It seems an unphysiological proceeding to stuff these patients with concentrated foods, in large quantities, which they cannot assimilate, and thus to impose an additional tax upon the system. Stimulants, also, are rarely so necessary to the same extent as formerly, since the course of management here outlined was adopted. In alcoholic subjects whose consumption of liquor has been a daily habit and requirement, $\frac{1}{2}$ to 2 ounces of good whisky every two or three hours may be useful, especially while resolution is going on, but not as a spur to a failing heart, as is commonly the practice. I am not quite sure on this point, hence still feel myself under the dominion of this idea. It would seem that inasmuch as a large part of alcohol is eliminated through the lungs, the latter are needlessly overburdened while they are straining to the utmost their functionary capacity. I should like to hear the experience of the fellows of the Academy upon this point.

Of medicinal agents I use but very few. Besides an opening dose of 10 to 20 grains of calomel, strychnin, and an occasional dose of morphin for pain, are the only medicines I have found of any real value. When the first sound of the heart becomes muffled or feeble, hypodermics of strychnin, $\frac{1}{16}$ to $\frac{1}{8}$ gr., every three or four hours, offer a valuable aid to tide the patient over a trying period. Given even to the production of trismus, if necessary, it is far superior to digitalis or brandy. I do not fear an occasional dose of phenacetin when the patient is restless, with high temperature, but it should not become a routine practice for temperature re-

duction. It is rarely required. Quinin, aconite, veratrum, digitalis, and other drugs, I have discarded after a prolonged trial.

The administration of calomel requires some detail. It should be placed, as Leaming and Cammann direct, dry upon the tongue and allowed to gradually disappear, being swallowed with the saliva, or, if necessary, washed down with a small quantity of water. These experienced practitioners tell us that "the inefficiency of the expectant method rendered a resort to the heroic a necessity, and with very encouraging results. Cases, such as had proved fatal by the mild treatment, were saved by the prompt exhibition of sedative doses of calomel, which are less depressing to the system than smaller doses." Today we are able to give a more rational explanation of the action of calomel in pneumonia than that of a "sedative." Its effect is twofold. First, it is a fact clearly established by Sternberg and others, that the diplococcus of Fraenkel, found most abundantly in the saliva, is destroyed by very feeble mercurial solutions. This may explain why the effect of calomel is so much more striking when allowed to slowly mingle with the saliva. Thus, the supply of microorganisms is at once cut off, together with toxins which would continue to be evolved from these, so long as they are living. This is not an unreasonable explanation of the remarkably rapid change in the symptoms of even desperate cases which are reported by Leaming, and which I have observed.

Secondly, a large dose of calomel removes ptomaines that may have lodged in the gastrointestinal canal. Calomel is the only agent to which investigations (made before guaiacol was discovered) have conceded internal antiseptic properties. Moreover, it clears the *primæ viæ*, as we older practitioners were taught to do; it clears the ship for action, as it were. It also disgorges the portal circulation, and probably thus relieves the stasis existing in the pulmonary circulation indirectly. Be the explanation what it may, clinical observation in typhoid fever, pneumonia, tonsillitis, diphtheria, and other infectious diseases has convinced me of its value when given in one large dose in the beginning of the case. It very rarely produces serious purgation. Even when diarrhea exists, it does not salivate as readily as smaller doses, and it certainly requires no repetition. It is more easily retained by an irritable stomach than other medicines. It is my custom to direct the patient to rinse the mouth frequently with a saturated solution of potassium chlorate to insure against pytalism, and to keep the mouth in a clean condition. Juergensen recommends weak mercurial solutions as a mouth-wash for the purpose of destroying the diplococci, whose favorite habitat is in the mouth.

Hydrotherapy, judiciously adapted to the indications of the case, has proven a valuable auxiliary in the management of these patients. In the croupous pneumonia of children, who are more easily handled, without great disturbance, the tub-bath is very useful when administered alongside of the bed, as in typhoid fever. The temperature should, however, rarely be below 85° F. Beginning with 95°, each bath may be reduced a few degrees, until the patient becomes accustomed to it, repeating every four hours until the temperature remains below 102.5°. Friction is a *sine qua non*, because chilling is more apt to occur in these patients than in typhoid fever, and for this reason the duration of the bath should be short—eight to ten minutes. The toxic agents which are operative in pneumonia appear to affect the heat-center quite differently from those evolved in typhoid fever. A bath of 80° F. often reduces the temperature in the former disease two to four degrees, while in the latter one degree would be a large reduction. Upon this clinical fact I have based a diagnostic bath which materially aids in the differentiation of typhoid fever from other diseases which so strongly resemble it during the first week. The value of the full bath in the pneumonia of children has been confirmed by the highest authorities, such as Penzoldt and Baginsky in Germany, Hutinel of Paris, our own Jacobi, and others.

In adults, however, I have given up tub-baths, although very cold baths (50°–60° F.) have been lauded by Juergensen and commended (65° F.) by chief-surgeon Vogl of Munich in a letter to myself. While they proved useful in many cases, I am convinced that the disturbance and agitation incident to a cold tub-bath increase the lung disturbance. If the patient is very dull, cyanotic, and presents great nerve prostration, resembling the typhoid state, I do not hesitate to choose between the two evils, an increase of the local disturbance and a decrease of nerve prostration, by plunging the patient into a bath of 80° F., or less, or seating him in water at 100° and pouring several basins of water at 65° to 75° F. over his head and shoulders. This is a valuable heart tonic. It serves, by deepening the inspirations, to dislodge accumulations in the bronchi, which have crippled the healthy as well as the affected lung.

The most useful hydiatric procedure in pneumonia is the *wet compress*. This consists of three folds of thin old linen stitched together at the edges, which has slits corresponding to the axillæ, so that it may be wrapped around the patient's chest snugly. The slits are made sufficiently deep to allow the upper edge of the compress to reach above the clavicles, and admit of the junction of the flaps thus formed on each side to cover the shoulders. Two such jackets,

and two pieces of closely woven thin flannel of the same shape, but an inch wider and longer, should be provided and fitted to the patient. One of the former is rolled up and soaked in a basin of water at 60° F., and wrung out so that it remains quite damp without dripping. The flannel is now spread out upon an even surface and the wet compress put upon it, so that there remains an edge of flannel about an inch wide all around. Both are rolled together half-way. While the patient is gently turned upon his left side, with the precaution of not allowing any exertion on his part, the compress is so placed upon the bed that the rolled part lies in close proximity to the left side of the patient, and the lower edge of the left slit is under the left axilla. Now the patient is quietly turned upon his back, so as to release the rolled-up portion. The latter is now unrolled, and both edges of the compress are brought forward upon the front of the chest and are thus made to envelop the latter snugly. The flannel cover, which has been allowed to lie upon the bed during the application of the wet compress, is now brought forward so as to quite cover the latter. It is secured by two safety-pins in front, and one upon each shoulder.

The well-known oiled silk jacket may serve as a model for the shape and manner of applying this wet compress. The latter should be changed every half-hour, unless the patient's temperature is below 102.5° F.; every hour unless it be 99.5° F., when it is discontinued. The removal is accomplished by preparing the second compress just like the first, paying attention to the water temperature being 60° F. When it and the flannel covering are rolled up in readiness, the first compress is removed and the second is applied. Thus a rotation is kept up every half-hour or hour as the case may require, night and day, unless the patient be asleep. The water in the basin should be renewed each time, and the compress rinsed off in another basin before it is rolled up for soaking, in order to insure thorough cleanliness and prevent furnuncles by furthering a sepsis.

The technic of the procedure has been entered into with a detail that may seem needless. As will be shown later, these details insure precision, and upon their exact execution may depend success or failure. The physician should himself supervise the first application, just as he should supervise the first Brand bath in typhoid fever. A skilled nurse can apply these compresses with a minimum of disturbance.

There is need, too, of individualization. In the average case a temperature of 60° F. will be appropriate. Should the patient evince stupor or muttering delirium, a lower temperature should be adopted, and the chest should receive one or more dashes of colder water, before renewal of each compress. The

same procedure is useful in bronchopneumonia, when the bronchi are blocked by secretions, or cyanosis exists. In a case which I had the privilege of seeing with Dr. E. J. Ware, this application proved its worth. The patient had passed through an attack of typhoid fever lasting some ten weeks; her condition was so precarious that when I entered an adjoining room she was bidding her relatives adieu. By skilful management she had been sustained up to this time. The right lung in its entire posterior aspect was solidified. The temperature was usually below 102° F., and the pulse exceedingly rapid. There was no dyspnea.

In this case the modified procedure referred to was extremely valuable. Inspiration soon deepened, the heart slowed, and in a few days the patient rallied from a most desperate condition.

A higher temperature than 60° F. may be used if there be much jactitation, insomnia, or excitability. In the latter event great benefit will accrue from allowing the compress to remain two hours and moistening it more thoroughly, which converts the compress into a soothing fomentation that is not relaxing like a poultice.

In a colleague, whom I had the privilege of seeing with Dr. Palmer Cole, there was complete involvement of the entire right lung, with temperature ranging from 103° to 105° F., the heart action being fair. The patient being a morphin *habitué*, there was a decided neurotic element in the case, involving insomnia and great jactitation. The compresses were only applied hourly, despite the high temperature, but they were allowed to be quite moist, in order to obtain a calming effect. Although the left lung became involved later, Dr. Cole informed me that the patient recovered from his desperate condition, and that, in his opinion, his life was saved by the management here outlined. No remedial measure deserves adoption by the profession unless the *rationale* can be satisfactorily explained.

According to my view of pneumonia crouposa, the therapeutic indications are (1) to stimulate and invigorate the nerve centers with a view to enhancing the patient's vital powers, (2) to prevent and control heart failure, (3) to reduce temperature, (4) to eliminate toxins.

The nerve centers are well stimulated and rehabilitated by the repeated gentle shocks and subsequent reactive stimulation of the sensory fibers in the skin, both of which are conveyed to the central nervous system and thence reflected to the organs, upon whose functioning capacity depends the patient's ability to resist the toxic agencies circulating in the blood. We aim here to accomplish precisely the same object as with the Brand bath in typhoid fever. The milder form of shock is better adapted to pneumonia, because it is less disturbing, and because the toxemia,

induced by the diplococcus, is less intense in the average case, and certainly has only one-third of the life period of the Eberth bacillus.

After a few compresses the patient grows more calm, the inspirations, which are deepened by each application, continue deeper, dyspnea is markedly relieved, sleep ensues, appetite improves, and the skin and kidneys begin to act more freely. These clinical evidences demonstrate the correctness of the *rationale* enunciated above.

The maintenance of the heart action is accomplished by the wet compresses in the following manner: When the cold compress is applied, there is a rapid contraction of the cutaneous vessels, which raises the tension at once, but gives way to a tonic dilatation of these vessels, which is evidenced by a ruddy hue of the skin. This dilatation differs very decidedly from that relaxed condition of the cutaneous vessels produced by warm poultices. The latter relax the vaso-constrictors, producing a paretic condition of the vessels, or a stasis, while cold applications stimulate the vaso-dilators, giving rise to an active dilatation, with maintenance of the tone of the vessels, an active hyperemia, by reason of which the blood is propelled more vigorously through them. The heart is thus relieved; not by a *vis-a-tergo*, as is the case after digitalis, but by a *vis-a-fronte*, formed by broadening of the blood-stream in the cutaneous capillaries, whose enhanced tonicity aid at the same time in propelling the blood onward. Arterial tension is increased, as is evidenced by the better filling of the radial arteries. The right heart is indirectly aided by this enhancement of the general tone in the vascular apparatus, and may thus expend more force upon the pulmonary circulation, whose vessels contract more firmly by reason of the dilatation of the superficial vessels.

Romberg¹ has recently confirmed what I have, several years ago, and repeatedly since that time, insisted upon, that in acute infectious diseases we encounter disturbances of the circulation which manifest themselves clinically as reduced tension and diminished filling of the arteries, and which are commonly described as heart failure. Undoubtedly the condition of the peripheral vessels bears a very large share in the production of cardiac atony, as I have sought to impress when explaining the *rationale* of cold applications in typhoid fever and pneumonia.² Romberg has shown by experiments with injections into rabbits of Fraenkel's diplococci that the circulation is damaged by a paralysis of the vasomotors, while the heart itself remains unaffected. It is true that the right ventricle is overloaded because of lung

¹ *Berlin klin. Wochenschrift*, 1895, Nos. 51 and 52.

² "Uses of Water," vol. II, p. 166.

infiltration, but that this does not so seriously cripple the heart as is generally supposed is proved by the fact, referred to above, that when crisis ensues, the compression due to the exudates is not removed at once, and yet the respiration and circulation are relieved as if by magic. This can only be accounted for, if I may be allowed to reiterate so important a statement, by the nervous system being suddenly relieved of the toxic elements generated by the diplococcus, whose activity ceases at once when it has reached the end of its natural life-period. It is probable that crisis ensues when the antitoxins evolved in the natural course of the disease have attained an overbalance of power. The battle between the diplococcus, with its allies, and the patient's vital powers, is at an end. The most important effect of cold applications in pneumonia is, therefore, the aid and sustenance they furnish to the nervous system, which bears the brunt of the fight. The improvement of cardiac action is one of the results of this effect.

Reduction of temperature is an important therapeutic element in these cases. Persistent high temperature may enfeeble the heart, and certainly depreciates the nerve centers. Some good clinicians, like Juergensen, claim that high temperature is the chief danger to patients suffering from pneumonia, and he advises in his latest work¹ that very cold baths, some below 60° F., are demanded to meet this "great danger." I shall not discuss this doctrine fully to-night. Since my argument against it before the New York State Medical Society in 1889, I have repeatedly expressed adverse views in this and other societies to this unfortunately too firmly established error, an error which has given unhappy prominence to the coal-tar antipyretics in the therapy of fevers. If any further testimony is needed to lay this ghost, which has so long affrighted timid practitioners, to rest, the discussion on fever in the Fourteenth Congress of Internal Medicine in April, 1896, demonstrates that we should cease to regard elevation of temperature as the cardinal symptom for therapeutic attack. While, however, these conclusions fully corroborate my own views expressed eight years ago, I may say that high temperature, though not actually and directly a lethal factor by inducing fatty degeneration of the cardiac muscular fiber, as claimed by Ziegler and others, does seriously cripple the work of the heart by imposing upon it more rapid action, and it does seriously interfere with the patient's comfort. High temperature, therefore, demands careful attention by measures that are not harmful like the routine use of coal-tar antipyretics. As I said elsewhere, I do not hesitate to use the latter occasionally when high temperature is associated with sleepless-

ness or great jactitation. They give great comfort to the patient, and are less annoying and disturbing than the wet compresses. But the latter are not used by me for their antithermic effect, which is only incidental.

The susceptibility of pneumonia patients to cold baths, and the great facility with which their temperature may be reduced, renders great care in the application of these measures imperative. For this reason I have abandoned cold baths, and have dwelt so minutely upon the method of application. That so mild a procedure as the wet compresses should be capable of reducing high temperatures in pneumonia, I have numerous charts to demonstrate. The decline is not as rapid as after cold baths, but it is pronounced and steady. It does not ensue after one or more compresses, nor does it follow the course of temperature reduction observed after cold baths in typhoid fever.

It decreases day by day one or more degrees. It is not the result of direct refrigeration; such an effect is neither aimed at nor obtainable. When a compress at 60° F. covered with flannel is applied around the chest of a pneumonia patient who presents a temperature of 102° to 106° F., there is an immediate cooling of the surface covered by it, which is followed by a gradual reaction with a more or less rapid rise of the surface temperature, until the latter is nearly the same as it was previous to the application. The surface is now bathed in a vapor produced by the heating of the compress. If the latter be allowed to remain sufficiently long, the flannel covering receives the vaporized water, and passes it outward until the compress becomes dry. But if the compress is changed as indicated above, the vapor is more slowly removed, and the skin and compress are found to be cooler than the flannel covering. Thus the gradual cooling process is continued until a fresh, cold compress is applied, when the skin, more sensitive by reason of having been bathed in this warm vapor, feels the shock more distinctly and reacts more fully. The error is not infrequently committed of covering a wet compress with oiled silk. While this would protect the bed and clothing of the patient, it would defeat the object of the compress by converting it into a poultice. If the body temperature is 103° F. or over, the compress applied as above becomes warm in half an hour, although evaporation of the moisture through the flannel renders the skin under it cooler than other parts of the body. When it is renewed, the repetition of the gentle shock and tonic dilatation occurs. Thus a slow cooling process, not relaxing or in any way depreciating, is maintained, which gradually lowers the general temperature, calms the patient, and contributes much to his recovery.

¹ Pensoldt and Stinsing, "Allgemeine Therapie," 1896.

How far this cutaneous hyperemia acts as a revulsive, it is impossible to ascertain, but it is a well-known fact that such hyperemia is always accompanied by contraction of the blood-vessels in the parts underlying. Thus may a favorable effect be produced also upon the inflamed lung tissue, and its circulation be improved.

The elimination of toxins is promoted by the wet compress, as by all cold hydiatric procedures. It has been proved by Roque and Weil that the urotoxic coefficient of the urine is trebled after cold baths in typhoid fever. All the secretions of the body are increased by cold applications. The alkalinity of the blood is also enhanced by the latter, as demonstrated by Alois Strasser. Tassinari (quoted by Winternitz) says that after septic infection of rabbits, the alkalinity of the blood is reduced about one-half. And it has been shown by others that in all infectious diseases the blood is less alkaline. Since alkalinity of the blood is a prerequisite for the existence and activity of phagocytes, it is not unreasonable to assume that cold applications further the phagocytosis, and elimination of toxic products, by rendering the blood more alkaline. Hence Buchner is correct (as Winternitz claims) in asserting that by cold-water treatment the powers of resistance to infectious agencies are enhanced.

This antitoxic-eliminating effect is increased by copious libations of water. It is my custom to administer in pneumonia, as in typhoid fever, 6 ounces of water every two hours, alternating with the same quantity of milk, night and day, when the patient is awake. The enormous increase of urine is scarcely credible. I have charts showing from 60 to 122 ounces in twenty-four hours. Some of the well-trained nurses, who have seen much hospital service, have volunteered an assurance of the correctness of their reports, under the impression that I would discredit such large quantities.

There is a striking peculiarity impressed upon the regular course of croupous pneumonia by the method here outlined to which I desire to call attention. Although the fever, dyspnea, and other distressing manifestations yield, to a remarkable extent, in a large proportion of cases, in one or two days, the physical signs do not change in a proportionate degree. Indeed, I have observed a distinct crisis in only about forty per cent. of the cases so treated; in the remainder, the disease ended by lysis of a very slow type. Improvement of the general symptoms goes on, the patient seems well, and is anxious to rise, but a dull percussion-note, muffled breath-sounds, and bronchial whisper bear testimony to lingering exudates for many days.

As an example, I may cite the case of H. E., who

sickened on December 8, 1895. His temperature ranged from 102° to 104° F. for four days, without any pronounced physical signs in the lungs, which were examined every day. On December 12th, consolidation of the entire posterior lower half of the right lung was made out. The mouth temperature was 104° F. at three P.M.; cough had been distressing several days; there were now rusty sputum and increased dyspnea. The family being greatly alarmed, Dr. A. A. Smith was called in consultation, but did not see the patient until the next morning. Calomel having been administered, the wet compresses were now applied, with the effect of bringing the temperature down two degrees in five hours. During the night, the compresses were, by a misunderstanding of the nurse, renewed every hour. The patient sleeping soundly for the first time since his illness, complained to me of the frequent disturbance. After twelve compresses, the temperature was 101° F. at eight A.M. When Dr. Smith saw him, at ten o'clock, he found him so comfortable that he expressed surprise at being called, and concurred in the treatment. Physical signs of consolidation were distinct. There had been no other treatment except 5 drops of dilute hydrochloric acid every two hours, as a placebo, followed by 6 ounces of water. Temperature reached normal point once every day for two days, and remained normal for ten days, when the patient was dismissed. Physical signs continued during Dr. Smith's attendance of five days, and dulness of the percussion-note had not entirely cleared up when I last saw him.

Clinical results confirm the *rationale* of this treatment, and attest its value. A quarter of a century ago the greatest living German clinician, Professor Niemeyer said: "I have made extensive employment of cold in the treatment of pneumonia, and, relying upon a large number of very favorable results, can recommend the procedure. In all cases, I cover the chest of the patient, and the affected side in particular, with cloths, which have been dipped in cold water, and well wrung out. . . . In the hospital at Prague, every pneumonia is treated with cold compresses and, according to the statement of Smoler, it is exceptional for a patient not to feel material relief from the treatment."

Why has a treatment which has received high commendation by so eminent a teacher not become an established practice in a disease which so often baffles the physician under other management?

To the student of the history of hydrotherapy this question is not difficult. Although water is an orthodox remedy, to which Hippocrates devoted almost an entire book, and although it has been highly commended by eminent physicians at various times, it has not become the common property of the profession, because most of those who taught its use and

¹ "Text-book of Practical Medicine," vol. i, p. 185, translated by Humphreys and Hackley.

value most earnestly failed to give definite directions for its application. Niemeyer illustrates this point. He simply advises "cloths wrung out of cold water to be applied to the chest" of the pneumonic patient. The temperature of the water, the duration, technic, frequency of repetition are left to the discretion and good or bad judgment of his hearers and readers, and yet these are far more important in hydrotherapy than are the dose, time of administration, frequency, etc., in prescribing medicinal agents.

In a paper on pneumonia, published several years ago by an eminent American teacher, the following sentence occurs: "If the temperature in pneumonia rises to 104°, 105°, or 106° F., I use cold baths or 'cold packs.'" Such indefiniteness is to be greatly deprecated when coming from one who is highly regarded as a teacher and guide. A cold bath, without stated temperature, is generally understood to be a bath to which neither hot water nor ice has been added. Such a bath would have a temperature of 75° F. in August, and 45° F. in December, in this city. Thirty degrees in the temperature of a bath are capable of producing an immense difference for good or evil; in pneumonia it would react very unfavorably, according to my personal observation. Just as Niemeyer failed to create a permanent following for the practice which he so highly lauded, so has the justly famous teacher referred to failed to impress upon the profession a practice which he had taught in 1870, as follows: "If there be anything I should rely on in pneumonia, if the temperature is very high, it is 'cold-water treatment.'" If this excellent teacher had been as explicit in giving temperature, duration, etc., of the "cold-water treatment," as he was in giving the doses of digitalis, nitroglycerin, and camphor, the valuable lessons he endeavored to inculcate would not now (twenty-five years later) require to be taught anew; they would have served as a beacon-light to the vain searcher after reliable therapeutic methods in this fatal disease. Let me emphasize, therefore, that while I may have offered nothing novel or striking in this essay, its chief aim is to impress upon you the great import of giving definite prescriptions for all hydiatric measures in this as in other diseases, be they acute or chronic, for only by such precision may we obtain definite results.

Statistical evidence to prove the value of the measures here advocated, or of any other method of management, is indeed very difficult to produce. The type of the disease differs very much; in private practice the number of cases is too meager, and observations are too inaccurate and unreliable. I may say, however, that I have not lost a case of uncomplicated croupous pneumonia in private practice since the adoption of the management of patients suffering

from it, here outlined. In hospital work the chief element of success with this method, *vis.*, its application in the early stages of pneumonia, is unfortunately absent. Its favorable influence upon the progress of the disease is attested, however, by the statistics of 156 cases in the J. Hood Wright Memorial (formerly Manhattan General) Hospital, in which the total mortality from pneumonia has been reduced one-half, since the method here advocated has been adopted by the entire staff; while in the cases admitted before the fifth day the mortality has been twelve per cent. against thirty-seven per cent. under the formerly prevailing expectant plan. These cases were under the observation and treatment of my colleagues, Drs. Daniels and Knickerbocker, and myself. The method described above is, with slight modifications, equally favorable in catarrhal pneumonia.

The ice-pack method recently advocated by Dr. Mays of Philadelphia, which claims a mortality of 3.58 per cent. in private practice, is worthy of mention in this connection, because its success is applicable upon the theory that it fulfils all the therapeutic indications almost as well as the cold wet compresses. Ice is applied in bags which are wrapped in towels and placed over the affected area, with a view to reduce the inflammatory process in the lung by direct cold. That the latter is an erroneous idea has been proven by the experiments of Silex,¹ who has shown by experiments on animals, that "ice applications increase the temperature of the organs over which they were placed and which were to be cooled." This effect of local cold has long been recognized by hydrotherapists, who know that intense cold applied externally produces a compensatory hyperemia in the parts beneath, thus protecting the latter against destruction if carried too far. The rationale of the favorable influence of the ice-compress treatment, however, is not difficult to explain upon recognized principles of hydrotherapy.

The towels which envelop the bags of ice soon become thoroughly wet by condensation, and thus the application is practically a continuous wet compress. This together with its unevenness prevents the complete reaction which is so useful in arousing the nerve centers, but its being applied upon parts of the chest only prevents serious results from this source. The objection to ice compresses would seem to be their uneven surfaces, which renders them uncomfortable when applied to the posterior portions of the lungs, the patient lying on the back; and also that their weight when applied anteriorly must render them inconvenient. In consideration of these facts I have not felt justified in applying this method of ice packs

¹ *Münchener medicin. Wochenschrift*, 1893.

so long as good results were obtained from the wet compresses.

In conclusion I hope to have shown that

1. Pneumonia is, like typhoid fever, an infectious disease whose chief attack is upon the nervous system, as manifested by heart failure, and other signs.

2. The treatment should be applied, not to the disease, but to the patient, whose resisting capacity should be enhanced by all useful remedial agencies.

3. Calomel in a large dose, followed by wet compresses, adapted in duration and temperature to each case, with fluid diet, and an abundance of water internally, aided, if need be, by mild alcoholic stimulation and hypodermics of strychnin, offer at the present time the most favorable, yet not perfect, results in the management of patients suffering from pneumonia.

SOME DIAGNOSTIC CONSIDERATIONS OF HEMATOLOGY.¹

BY ARTHUR J. PATEK, M.D.,
OF MILWAUKEE.

It is my intention to touch lightly on hematologic conditions that have been pretty thoroughly studied and present well-known clinical pictures, such as simple and pernicious anemia, chlorosis, and leukemia, and to leave unmentioned those branches of this science that have to deal with the methods of preparing and staining blood-preparations for investigation. I wish only to call attention to some of the diagnostic considerations of hematology with reference more especially to their application in diseases that are not purely affections of the hematopoietic system.

The blood, in addition to being the bearer of products to tissues for elaboration, and of elaborated products from tissues, is the carrier of many infectious germs, as the streptococcus and staphylococcus in septic conditions, the bacillus of relapsing fever, the typhoid bacillus, the gonococcus, and also of the ptomaines elaborated by these and other bacteria. It harbors animal parasites, as the plasmodium malarie and *filaria sanguinis hominis*; its own elements may demonstrate disease, as in the essential blood-affections—chlorosis, progressive pernicious anemia, and leukemia, in which these diseases are made manifest by abnormalities of the hemal constituents.

That the claim that hematology should be added to the symptomatology of all diseases not distinctly of a local character is not overzealous enthusiasm, is shown by the efforts that are being made to place it on a more sound footing and to enlist its services in the general study of disease. This labor has not

been entirely fruitless, for though the list of diseases of which we have a definite hematologic knowledge is a small one, and our knowledge of the blood-elements is still very limited, yet careful observations and experiments by tireless workers have enabled them to formulate generalizations as to the symptomatology of the blood, which may act as valuable aids in diagnosis in certain obscure cases.

Without going into etiologic details, I wish to call your attention to a new granulation-cell discovered by Professor Neusser of Vienna, and demonstrated by him at the Medical Congress at Vienna in September, 1894. These granules are characterized as "perinuclear basophils," because they are basic as to their staining affinities, and perinuclear as to their grouping in the cell. You will find an exquisite specimen under the microscope. This preparation I have made from the blood of a lady who has been gouty for over thirty years. Neusser considers this cell diagnostic of uric-acid diathesis in its various pronounced and masked forms, having found it present in a large number of such cases, and achieved some success in directing his therapeutics accordingly. The granules he considers derivatives of the cell-nucleus, hence nuclein-products—advance-stages in uric-acid formation, the accumulation of which in the system gives rise to the various symptoms found in this diathesis.¹ Further investigations, however, are called for, and at the recent meeting of the American Medical Association in Atlanta, Osler announced that a report on this subject was in course of preparation.

In a general way, the affections in which the constitution of the blood may prove an objective symptom, having distinct bearing upon the diagnosis, may be classified as: (1) Acute febrile affections and suppurative processes; (2) malignant processes.

It is far from possible to claim that hematologic distinctions exist between these affections and their subdivisions, but the value of the science lies in the generalizations of which it admits, and its application as a measure of differential diagnosis.

We may lay down the general rule that in the acute febrile affections (including under this head the various infectious diseases and acute suppurative processes) there exists a leucocytosis. It is the exceptions to this that assist us in a differential diagnosis. We may lay down a second broad rule governing the infectious fevers, *vis.*, that in addition to a leucocytosis there is to be noticed either no increase, a diminution, or an absence of eosinophil cells at the height of the fever, the exceptions to this rule being scarlet fever, malaria, and tetanus. Acute suppurative processes, wherever they may exist, adhere quite closely to the rule of existing leu-

¹ Read by invitation before the Milwaukee Medical Society, June 23, 1896.

cocytosis, and we may often find it of service to know that we are dealing with a pleurisy or meningitis of purulent type, or an abscess of the liver. The infectious fevers display greater deviations, and we shall take up the important ones individually.

Croupous Pneumonia.—Leucocytosis is very marked and confined largely to the polynuclear elements. The greater the leucocytosis, the better the prognosis, and, *vice versa*, the fewer the leucocytes, the worse the prognosis. A long-continued, high degree of leucocytosis is, however, unfavorable, being suggestive of a complication, such as general sepsis. Ewing³ says that, out of 101 cases, "not one case recovered in which the disease was of even moderate severity when the number of leucocytes fell below 14,000," and A. H. Smith of New York corroborated this observation in an address on "Prognosis in Pneumonia," delivered at the recent meeting of the Association of American Physicians, in Washington. Cases of excessive leucocytosis gave an unfavorable prognosis, being due to septic conditions, in one case to an empyema. This leucocytosis is confined to the neutrophil cells, for the eosinophil cells are diminished or absent, reappearing immediately before, during, or after the crisis. They may, therefore, if appearing before the crisis, be a means of predicting this event; after the crisis, the number of the leucocytes becomes normal—often critically with the fever. A pseudo-crisis is not attended by a diminution of leucocytes or a reappearance of eosinophils.

Typhoid Fever.—Opposed to the positive blood-picture of pneumonia, typhoid interests us because of its negative sides. Here we find a uniform diminution of the white corpuscular elements, a leucopenia (dearth of white corpuscles) affecting principally the polynuclear elements. Their number may be as low as 1500 or 1700, in place of the normal 7000 or 9000, their reappearance following the return of the normal temperature. We are frequently confronted with the perplexing question: Are we dealing with a central pneumonia or a typhoid fever? Let these points, then, come to our assistance: Examination of the blood for its leucocytes (including eosinophils) and its fibrin (increased in pneumonia), the sputum for its eosinophils (absent in pneumonia), the urine for its chlorids (diminished in pneumonia), and for the diazo-reaction (very often present in typhoid). A combination of the affections—typhoid and pneumonia—will, of course, give us a mixed, hence, atypical picture. So uniformly is leucopenia present in typhoid fever that a leucocytosis in the course of the disease should always be regarded with great suspicion. Widal's method, based on the looping of bacilli observable in the blood of a typhoid

patient, gives promise of an absolute diagnosis of typhoid.

Acute miliary Tuberculosis.—There is no characteristic blood-picture here that gives us any assistance, and alas! we are not brought nearer a solution of the difficult problem of the differential diagnosis between miliary tuberculosis and typhoid fever. It has been thought that the diminution of leucocytes in typhoid and the absence of this in miliary tuberculosis would be of assistance. In some cases this has been found serviceable, and more recent reports show that there is no constancy in the hematology of miliary tuberculosis. Two carefully observed cases⁴ reported by Warthin of Ann Arbor showed a constant diminution of leucocytes, and thus we find ourselves as much at sea as before, and more likely to be misled than aided if arguing from the constancy of the hemal condition in typhoid.

Pulmonary Tuberculosis shows a leucocytosis only in the ulcerative form, and we are, by reason of this, justified in diagnosing a cavity-formation, even though the physical signs be absent, providing there be no other chronic suppurative or exudative process.

Meningitis, tubercular and purulent.—Purulent meningitis usually has an evident cause—trauma, aural or nasal disease, etc. When we consider the number of cases of chronic otitis media that actually exist, we must say that meningitis from this source is comparatively infrequent; and yet, tubercular meningitis may attack an individual suffering from chronic otitis media, and thus obscure the diagnosis. I have seen two such cases in which eminent clinicians were baffled. Unfortunately, the blood is not of so great an assistance here, for there is no constancy in the leucocytosis. But in purulent meningitis it is of the utmost importance. An interesting case, occurring in Vienna, has been reported by Singer.⁴ A patient with otorrhea of many years' standing was suddenly seized with fever and symptoms strongly suggestive of meningitis. The existence of a leucopenia cast suspicion upon the case, and later the discovery of the typhoid bacillus in the urine cleared the diagnosis and prevented operative intervention, to which the patient would have been submitted if the diagnosis of meningitis had been made.

The constancy of the leucopenia in typhoid and non-existence in tubercular meningitis may frequently be of material assistance in diagnosis.

Scarlet Fever.—Of the exanthematous fevers, this shows the most marked blood-changes, a pronounced leucocytosis being found several days before the appearance of the eruption. The polynuclear cells predominate (constituting nearly ninety per cent. of all, and eosinophils are also in large excess, both

relatively and absolutely, their excess being looked upon as prognostically good. During the predominance of the catarrhal symptoms in the præruptive stage, when an absolute diagnosis from measles is impossible, or at best very doubtful, this hematological condition may serve to discriminate between the two diseases. In measles, there is no appreciable leucocytotic alteration of the blood. The same may be said of malaria (in its acute form), typhus, influenza, and, as has already been mentioned, tubercular meningitis.

Malaria and Sepsis.—Absence of a leucocytosis and of eosinophil cells in malaria may, when there are no typical chills, be of service in differentiation from sepsis.

Diphtheria shows quite a marked increase of leucocytes, and erysipelas resembles pneumonia in a critical decline of its leucocytes. Osteomyelitis is also characterized by a marked leucocytosis.

It will be noticed that the distinctly pathologic hemal conditions are largely limited to those infectious processes that are characterized in part by inflammatory exudations.⁴

Bremer⁵ of St. Louis claims to have found with the use of a specially prepared eosin-methylblue stain a characteristic pigmentation of the red corpuscle in fifty cases of diabetes. This awaits corroboration.

Secondary Anemia offers nothing characteristic, and is found associated with a large number of chronic affections, such as lues, nephritis, rachitis, malignant tumors, bone-affections, uratic diathesis, etc.

Malignant new Growths.—We may make the general statement that, in addition to the secondary anemia, these conditions incline to a leucocytosis. A very malignant sarcoma may develop an enormous degree of leucocytosis. An ulcerating tumor is especially prone to give rise to a leucocytosis, and this rule is of much practical importance, serving as an excellent guide to the operability of a concealed tumor, such as a carcinoma of the stomach, but a marked leucocytosis is a contraindication to operation. A mild degree of leucocytosis is usually present in any case, and is thus, if in combination with other dubious symptoms, of early diagnostic value. When there is associated with gastric cancer an atrophy of the gastric glandular apparatus, the secondary anemia may be so great as to constitute a pernicious anemia. The experimental fact recently corroborated by Paul Meyer¹ that the ingestion of nuclein normally causes a leucocytosis has also been made use of in the diagnosis of carcinoma ventriculi, for, owing to deficient absorptive powers, a leucocytosis does not here follow the ingestion of nuclein. We may also cite the fact that the digestive leucocytosis, which, in normal individuals, may be estimated as high as 20,000

white corpuscles, is also frequently absent in gastric carcinoma, though, as very recently pointed out by Hassman of Vienna,² digestion leucocytosis as a diagnostic symptom in carcinoma ventriculi, is of value only if it is coexistent with an absence of peptonizing power, *i. e.*, the difference between the digestion-leucocytosis in ulcer and carcinoma is to be sought in the concomitant anatomical changes of the gastric mucous membrane, these usually being severe in carcinoma and mild in ulcer.

Parasitization with *Bothriocephalus latus*, severe lues, exhaustive hematemeses, and carcinoma cachexia may present the picture of a pernicious anemia.

To sum up, then, let us make the following generalization: With the exceptions as noted, and with definite limitations, an examination of the blood may assist in the differential diagnosis of:

Typhoid fever and pneumonia; typhoid fever and tubercular meningitis; typhoid fever and typhus fever; tubercular and purulent meningitis; scarlet fever and measles; scarlet fever and diphtheria; malaria and sepsis; carcinoma, ulcerating and non-ulcerating; purulent and serous deposits.

These considerations are meant rather in the light of diagnostic possibilities based on our present limited knowledge of the subject, and I have therefore attempted to treat this subject conservatively. My sole desire has been to stimulate observation and investigation on the part of the individual, by presenting evidence to show that hematology embraces a broad field, not limited to rare blood-affections, nor restricted in practical application to the scientist and his laboratory, and that there are diseases daily passing under the eyes of practitioners in which an examination of the blood may prove a serviceable procedure, adding not only to the symptomatology of the disease, but aiding in the diagnosis.

BIBLIOGRAPHY.

- ¹ *Wiener klinische Wochenschrift*, September 27, 1894.
- ² *New York Medical Journal*, December 16, 1893.
- ³ *MEDICAL NEWS*, January 25, 1896.
- ⁴ *La Semaine Médicale*, May 13, 1896.
- ⁵ In *La Semaine Médicale* of June 17, 1896, Darier reports a case of dermatitis herpetiformis (Dühring's disease) in which the leucocytes of the vesicles were eosinophilous to the extent of thirty to fifty per cent.; and Leredde, who first called attention to this peculiarity, says that this increase of eosinophils in the blood is present in dermatitis herpetiformis only.
- ⁶ *New York Medical Journal*, March 7, 1896.
- ⁷ *Deutsche medicinische Wochenschrift*, March 19, 1896.
- ⁸ *Wiener klinische Wochenschrift*, April 23, 1896.

New Jersey's Sanitary Commission.—An important meeting of this commission occurred at Lakewood recently at which many details relating to unsanitary conditions in the numerous factories of the State were discussed. An effort will be made this winter to pass such legislative measures as will in a large degree correct these defects.

HYSTERICAL FEVER.

BY W. GILMAN THOMPSON, M.D.,
OF NEW YORK.

IN the MEDICAL NEWS of December 19, 1896, page 700, is reported a case of "hysterical fever," in which the temperature (rectal) was 112° F. (44.4° C.). Dr. Alexander Smith, in exhibiting the patient during a clinical lecture, gives credence to the possibility of the existence of much higher temperatures, and refers to "a case reported by a gentleman of high authority, in which the temperature of a male patient rose to 122° F." (50° C.), and to another case reported at a meeting of the Association of American Physicians, in which the temperature was said to reach 148° F. [*sic*] (64.4° C.). Dr. Smith adds: "In each of these cases there was an hysterical element." I do not deny the existence of a possible temperature of 112° F. in anyone, but it is to be regretted that further publicity should be given to the report of the alleged phenomenon of much higher temperatures than this, which is as definitely controverted by the established facts of physiology as have been the assertions that air at 450° F. (232.22° C.) could be drawn into the depths of the lungs, or that inhalation of pure oxygen gas would cause convulsions by rapid oxidation of all the body tissues!

Many cases similar to the one reported by Dr. Smith have been recorded, and, as he says, the majority of them have been in hysterical subjects or, I may add, in malingers. Recovery from a temperature of 112° F. is quite possible in insolation. I have seen three such cases. The forthcoming annual report of the Presbyterian Hospital, New York, will contain the records of several similar cases, and of one in which the temperature rose to 115° F. (46.11° C.), the patient recovering. During the unprecedented heat of last summer (1896), I am told that a patient suffering from sunstroke was received at the New York Hospital, who lived for three days after having had a body temperature of 117° F. (47.22° C.). All such cases are attended by phenomena too well known to necessitate detailed repetition here. Coma, convulsions, Cheyne-Stokes respiration, pulmonary edema, and suppression of urine endanger the patient's life, and such temperatures can only be supported for a very few hours at most without proving fatal.

In the article on "Tetanus," in the *American System of Medicine*, vol. i, p. 939, Stewart says that temperatures of 112 , 113 , and 114° F. (44.4 , 45 , 45.55° C.) have been recorded.

The type of patient to whom Dr. Smith's communication refers, however, is usually in fairly good general health, and is ready to repeat the temperature phenomenon on the slightest provocation. I

have seen a number of such cases where the temperature habit has been very cleverly assumed. The 148° F. (64.4° C.) patient described by a writer in the "Transactions" of the Association of American Physicians (1895, vol. x, p. 159) is an arrant knave and malingerer. I identified him as an old acquaintance, for I turned him out of the Presbyterian Hospital when I found his temperature normal, after I took it myself in the mouth a few minutes after the nurse, in great alarm, had reported it as 109° F. (42.77° C.). He also had "hysterical," or, rather, malingerer's breathing, which disappeared at once when I accused him of being a "fake." Three or four days later I happened to see him in the Surgical Division of the New York Hospital, where trephining him for supposed cerebral abscess had been seriously discussed (!), and where he again exhibited very high thermometric records. He was much surprised and disgusted at being detected again, and I did not have time to urge his dismissal, for he left at once. A member of my house staff identified him also as a patient who had exhibited his "hyperthermy" in one of the Philadelphia hospitals, a year or two before. How he performed his trick, I could not learn, but there was a very definite relation between the height of his temperature and the interest displayed in his case. Anyone who has had playing cards "forced" upon him by a clever prestidigitateur must be able to conceive ways in which the thermometer may be tampered with. It is certainly not done by pressure or friction, for this experiment has been often tried, and without success. It is done by sliding the scale in some manner. It should be borne in mind that the only ready-made thermometers possessing a self-recording "index" are those commonly sold as clinical thermometers, and they usually do not register above 110° F. (43.33° C.) on the scale, with room for 1° or $1\frac{1}{2}^{\circ}$ beyond. The only other thermometers suitable for rectal use which I have been able to purchase ready-made after extensive search are those employed by the beer-brewers, and those made in Europe for thermostats, etc. These thermometers have small bulbs, but large stems; they are without indices, and when tipped a very little below the horizontal line, the mercury can often be made to slide along the scale without application of any other force. On page 182 of the "Transactions," the record of 148° F. (64.4° C.) is given with the significant remark: "Thermometer introduced by patient and removed by nurse." This observation was repeated with the same result (page 183). Many other observations were made by the physicians with the patient "standing up out of bed,"—an admirable position to favor the sliding of the mercury.

When this patient exhibited his 148° F. temperature, his pulse was only 68, but when he had only 112.6° F. (44.47° C. at his disposal, his pulse happened to be 84. His malingerer's breathing fluctuated similarly. When I saw him it was 70, but he could not raise the mercury in the clinical thermometer above named while I kept it vertical and between my own fingers. The character of this patient is exemplified in another statement made in his history, on page 165 (*loc. cit.*), in which he is said to have injured his head in falling from the "walking-beam" of the steamship "Heligoland," plying between Hamburg and New York, in 1892; whereas the facts are that this steamship never had a "walking-beam," and these structures have been out of date upon transatlantic steamers since the days of the "Scotia," many years prior to that time. At the New York Hospital, I found the man had been entertaining the nurses by his exceedingly clever sleight-of-hand tricks—taking oranges from beneath their aprons, and swallowing rolls of bandages and whole bottlesful of medicine, to the consternation of all beholders.

The absurd fluctuations in this man's temperature show how little control he really had over the instrument, for in one of the instances reported (page 180, *loc. cit.*) the record dropped 15.8° F. in five minutes. (The highest temperatures in sunstroke cases cannot be reduced faster than 1° F. in three or four minutes with safety.)

I recall a similar case of a young woman, although with a less ambitious temperature record. This patient's history was reported by Dr. Peabody¹ as a record-breaker. Dr. Peabody spent much time in trying to detect her trick. She appeared afterward at the Presbyterian Hospital, where I identified her and discharged her, after she had been under observation for some weeks and had been examined for possible splenic or subdiaphragmatic abscess. She admitted her deception. She was usually content with a record of 108 to 110° F., but this she maintained at intervals for many months.

There is no doubt whatever that the majority of these so-called "hysterical fever" cases are not hysterical at all in the sense of being in any way controlled by a hypersensitive condition of the heat-centers of the nervous system. An hysterical condition may lead the patient to deceive in this matter, as in many others, but it is safe to assert that all human-body temperatures above 117° F. (47.22° C.) are instantly incompatible with life, and the records of them are only obtained through wilful deception on the part of the patient. There is just one way to prove the genuineness of any such temperature with absolute certainty, and it is so simple that it is remarkable that it is uniformly neglected in such cases.

It is to take the temperature of the urine the instant it is voided, with a thermometer which is never allowed to come in contact with the patient's body in any manner. This will give the deep internal body-temperature in the most accurate manner possible. I have often taken the temperature in this manner, and also in women, by passing a long-stemmed thermometer into the bladder, and the record always gives the proper deep internal body-temperature.

In proof of these assertions are innumerable physiological data, as well as the records of clinical experience. The distinguished authority upon physiological chemistry, Halliburton,³ says: "By fractional heat coagulation, five proteids can be separated in muscle plasma. Four of these are precipitated by various temperatures, and one, of the nature of an albumose, is not precipitable by heat." The three globulins which are thus coagulated by the lowest temperatures are: (1) Paramyosinogen (musculin), which coagulates at 116.6° F. (47° C.); (2) myosinogen, which coagulates at 132.8° F. (56° C.), and (3) myoglobulin, which coagulates at 145.4° F. (63° C.).

A. Sheridan Lea, author of "The Chemical Basis of the Animal Body," in Foster's "Physiology,"⁴ gives identical figures.

Kühne⁵ also reports an albuminate in muscle that coagulates at 116.6° F. (47° C.).

Landois and Stirling⁶ state that "the rapidity of coagulation [in muscle plasma] increases rapidly as the temperature rises, while coagulation takes place very rapidly at 104° F. (40° C.) in cold-blooded animals, or at 118.4 F. to 122° F. (48 to 50° C.) in warm-blooded animals.

I have confirmed this latter observation by experiments upon pigeons, which become rigid and die when their body temperature is artificially raised to this degree.

Speaking of myosin, Foster⁷ says: "It is worthy of notice that it coagulates at a comparatively low temperature, *viz.*, at about 132.8° F. (56° C.)."

Turning now to the blood, one finds a similar incompatibility of life with high body temperatures. Halliburton⁸ describes cell globulins of the blood, one of which coagulates at 118.4 to 122° F. (48 to 50° C.). Lea⁹ says that fibrinogen coagulates at 131 to 132.8° F. (55 to 56° C.) as it occurs in blood plasma, and Halliburton¹⁰ states that "with a solution of fibrinogen and serum-globulin, a temperature of 132.8° F. (56° C.) is employed to precipitate the fibrinogen."

It is thus very evident that with a body-temperature of above 117° F. (47.22° C.), not only would all the muscles be in a state of heat-rigor, and the

heart-muscle stiff with coagulation, but some, if not all, of the coagulable proteids of the blood would be coagulated, either making the blood itself semi-solid, or filling it with emboli which would immediately plug all the capillaries. Many of the alleged high body-temperatures reported in medical literature have been insufficiently verified, and have been quoted and requoted without regard to the established simple physiological facts of recent experiment which render it certain that they have had their origin only in clever deceptions practised by the patients. Any such temperature as 148° F. (64.4° C.), or even 122° F. (50° C.), would practically roast the delicate epithelial structures of the body. In a number of experiments which I made some years ago to determine the heat-conveying power of poultices applied to the skin, I found that a temperature in the poultice of 140° F. (60° C.) could scarcely be tolerated, and that for but a short time only. The maximum temperature at which intra-vaginal or rectal injections can be tolerated without discomfort or danger of sloughing should be remembered. A man with a body-temperature of 148° F. would be as stiff as a recent cadaver, and too hot to handle with comfort.

BIBLIOGRAPHY.

- ¹ *N. Y. Med. Record*, 1895.
- ² "Text-book of Chemical Physiology and Pathology," 1891, p. 412.
- ³ *Loc. cit.*, pp. 119, 414.
- ⁴ MacMillan's ed. of Foster, 1893, vol. v, p. 31.
- ⁵ Landois and Stirling's Physiology, Blakiston's ed., 1889, p. 512.
- ⁶ *Loc. cit.*, p. 512.
- ⁷ Foster's Physiology, Lea's ed., 1895, p. 84.
- ⁸ Proc. Royal Soc., vol. xlv., 1888, p. 255, and *Jrn. Physiol.*, vol. ix., 1888, p. 235.
- ⁹ *Loc. cit.*, p. 29.
- ¹⁰ Text-book cited, pp. 119, 414.

CLINICAL MEMORANDUM.

CONGENITAL ABSENCE OF BOTH PATELLÆ.¹

By A. T. BRISTOW, M.D.,
OF BROOKLYN, N. Y.

WHEN my attention was directed to this curious deformity by the following case, I at once made a study of the literature at my command, in the hope of obtaining information regarding it. In the last edition of Quain's "Anatomy," in which special attention is given to anomalies, no mention of the subject was to be found, but a review of the literature of the last few years yielded better results, and I found four similar cases reported.² Hartigan gives an account of one case, Körte, quoted by Hartigan, reports two cases, and Railton³ one. I have also found a number of cases recorded in which one patella was absent, and one curious case in which the patellæ

lay in the popliteal space. My case, therefore, as far as I have been able to ascertain, makes the fifth on record of absence of both patellæ.

During the summer of 1895, there came into my service at the Long Island Hospital this child of two and one-half years of age, with a slight pes varus of the right side, and a severe type of the deformity on the left, which evidently called for operative interference. While examining the child for the purpose of correction, my attention was attracted to the case with which a luxation of the knee was produced. Indeed, at first the peculiar crack, with which the dislocation occurred, most unpleasantly suggested a fracture. Closer inspection revealed the fact, however, that the knee-joint on each side immediately became dislocated on bringing the axes of the femur and tibia into line, and that the bones could be displaced in any direction almost at will.

As the joint looked peculiarly prominent, I examined the condyles, and failed to find a patella on either side. The tendon of the quadriceps, instead of being thick and strong, was very thin, and was spread out over the front of the joint, seeming to be attached in part to the condyles of the femur, as well as to the fibula and tibia. There had been no attempt on the part of nature to supply a patella. There have been cases reported where this bone consisted of a rudimentary cartilage; but there was nothing of the sort to be found by palpation in this case.

The most complete account of the cases reported up to this date may be found in Hartigan's article, before referred to. The first case which he mentions was a unilateral defect on the left side, and, curiously enough, most of the unilateral cases seem to have occurred on the left side. In his case the left leg, instead of being flexed by the action of the hamstring-tendon, could not be moved backward after the axis of the leg coincided with that of the femur, but at the child's volition, or with the gentlest pressure, it could be bent forward against the quadriceps, so that the sole of the foot looked upward, with the toes in the groin, in which position the limb was usually maintained. There were two deep creases in the integument anteriorly when the limb was straight, but absolutely no indication of a patella. The writer remarks that the backward displacement of the tibia occurred in uterine life. Other cases referred to are as follows: Chatelain, Neuville, France, 1820, new-born child, left patella absent; Bard, Boston, 1835, absence of patella, dressed with compress under knee, and at three years of age no difference could be noticed in legs; Maas, Berlin, 1874, right patella absent, case did well subsequently; Lane, London, 1858, right patella absent, double pes valgus, subsequent history not given; Labbé, Paris, 1875, child fifteen days old, left patella absent, double pes talus; Caswell, 1865, left patella absent, with malformation of lower limbs; Körte, Germany, 1872, two cases, both patellæ absent; Ammon and Wutzer, 1835, one patella absent.

In all this series of cases there seems to have been an element of spasm, or a contracture of the quadriceps, as it always required more force to bring the limb from its position of extreme anterior flexion backward during the first part of the arc than the last, and much flexion of the

¹ Read before the Brooklyn Surgical Society.

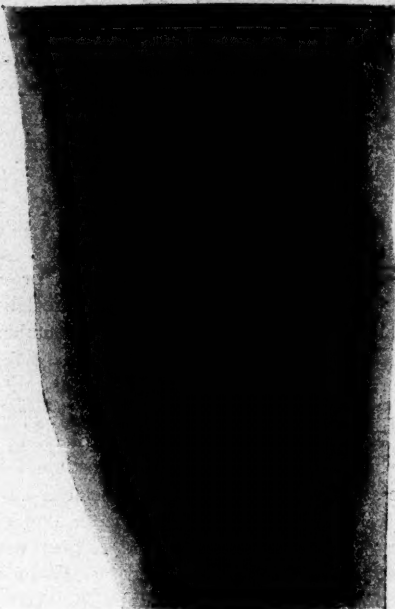
² *Nat. Med. Review*, 1879, vol. i, p. 92.

³ *Brit. Med. Jour.*, 1892.

FIG. 1.

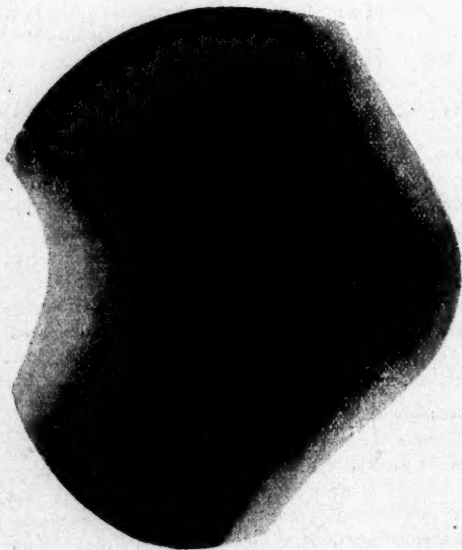


Right knee-joint.



Left knee-joint.

FIG. 2.



Left knee-joint, side view.

limb, or lateral motion, was painful. Bourquet¹ gives an account of a most interesting case, in which the patellæ were not entirely absent, mere vestiges of the bones being found applied to the external condyles. The patient was

¹ Bull. et Mem. Soc. de Chir. de Paris, 1885.

a man aged twenty-one, who was exempt from military duty on account of a contracture of the right biceps, which did not permit the arm to be extended to more than a right angle. He was a bailiff's officer, for which, indeed, nature evidently intended him, and was in the habit of walking, so the reporter says, from thirty to forty kilometers daily. His lower limbs were very muscular, the thighs shaped like a woman's, with slight genu valgum. He is said to have walked naturally and to have used his legs as if no congenital defect was present. The tendon of the quadriceps was absent, and with regard to the very rudimentary patellæ, the observer remarks that it was impossible to discover them on ordinary palpation. Railton¹ reports a case of congenital absence of both patellæ in a girl of nine months. There was a slight genu valgum on the left side, and a tendency to varus in the left foot. The left hip- and knee-joints, particularly the latter, were so lax that the left foot could be turned around so as to point directly backward. The right knee could not be so treated. The child was otherwise healthy, except for a mild rachitis.

In reviewing these cases, it will be seen that in some there seems to have been a nervous element present as a factor in producing the accompanying peculiar deformity in these patients; but it is possible that this was reflex and in the direction of protecting the joint, for the synovial surface would be most exposed in extreme flexion, and best protected in anterior flexion. All the cases, without exception, seem to have been subject to other developmental errors, a rule to which this case of my own

¹ Clinical Society of South Manchester, April 26, 1892.

is no exception, as he has a varus of both sides, it being most severe on the right.

The accompanying skiagrams which very clearly demonstrate the osseous defects, have been procured since the case was reported. I am indebted to Professor W. C. Peckham of the Adelphi College, Brooklyn, for them. They were made with a Thompson focusing tube, and Ruhmkorff coil, eight-inch spark, exposure twenty minutes. Fig. I. shows both extremities, taken on the same negative. The tibia on the right side is dislocated outward and backward with a rotation of the femur inward and tibia outward. The bones are much more closely approximated in this limb than on the left side, as is evidenced by the skiagram. The epiphyseal lines are all clearly seen, the child being three years of age at the time this skiagram was taken. The intercondyloid notch on the left side seems much more marked than on the right, and the profile of the tibial joint-line is more curved.

Plate II. is a side view of the left leg, exposure same as before.

MEDICAL PROGRESS.

A Long Pregnancy.—ROSS reports in the *Australian Med. Gazette*, April 20, 1896, a pregnancy of extraordinary length. On September 30, 1895, the patient, a multipara, thought she detected fetal movements. One week later, October 6, she called upon Ross to have her suspicion of pregnancy confirmed. He felt the movements distinctly at that time, and every week thereafter until the day of delivery, May 20, 1896, *i.e.*, 227 days after he first felt fetal movements. Presuming that they can be felt as early as the end of the third month, it would be necessary to add eighty-four days, making 311 days for the duration of the pregnancy. The condition of the child at delivery coincided with these figures. After a long labor, the os was dilated, the very thick membranes were ruptured, and a female child weighing about nine or ten pounds was delivered with high forceps. Liquor amnii was scanty, and the placenta adherent. The posterior fontanel was completely closed, and the anterior one small and firm, and non-pulsating. The appearance of the child indicated a greater age than 311 days, which is the very shortest conceivable duration of this pregnancy.

Nephritis Due to Hereditary Syphilis.—According to the opinion of AUDEOUD (*Revue Médicale de la Suisse Romande*, August 20, 1896, p. 393) renal alterations may be present from birth in cases of hereditary syphilis, perhaps oftener than is currently believed. The lesion may appear in the form of gummata, of acute parenchymatous nephritis, interstitial nephritis, or amyloid degeneration. These lesions may be manifested during life by the usual symptoms of nephritis-anasarca, albuminuria, anuria, vomiting, and uremic convulsions, and may lead to a fatal termination. It is important to recognize early the etiology of the cases, in order to institute appropriate treatment promptly and effect a permanent cure.

Hepatocole in a New-born Infant, with a Successful Operation.—PATRY (*Revue Médicale de la Suisse Romande*,

1896, No. 7, p. 354) has reported the case of a new-born infant of well-formed parents, who presented in the median line of the abdomen, between the ensiform cartilage and the symphysis pubis, a roundish, slightly bosselated tumor of pinkish tint, about as large as an orange, and sharply circumscribed in outline. The mass was covered by thin, semitransparent membrane, continuous at the periphery with the umbilical cord, which arose from the lower portion of the tumor. Upon palpation, the prominence was resistant, and not fluctuating, and appeared of homogeneous consistence; it yielded a dull note on percussion. The mass was readily reducible, but returned when the taxis was removed. The usual area of hepatic percussion-dullness was wanting. The condition was recognized as one of defective closure of the abdominal walls, with ectopia of the liver. A radical operation was proposed and undertaken on the third day, with ultimate success. Jaundice, lasting for six days, developed, and a small hernial protrusion remained. The latter manifested itself only when the child cried or coughed, and was easily controlled by means of a bandage.

The Influence of Fever Upon Metabolism and Upon Thermogenesis.—As the outcome of an experimental study of the influence of fever upon intra-organic chemic changes, and upon thermogenesis, KAUFMANN (*Compt. rend. hebdomadaire de la Soc. de Biologie*, 1896, No. 25, p. 773) has determined that the febrile state is attended with an increase in the respiratory interchange, in the excretion of urea, and in thermogenesis. In the febrile starving animal the intra-organic chemic phenomena are simply exaggerated, but they are not modified in their nature. The respiratory coefficient remains nearly normal, and the production of heat in excess is about proportional to the excess of oxygen absorbed. The totality of heat generated may be related to simple oxidation-processes, as a result of which albumin and fat are transformed into sugar, and sugar into carbonic-acid and water. According to results already obtained, the rectal temperature and thermogenesis do not display the same modifications. As a result, the thermometer may not furnish an exact index of intra-organic chemic activity, or of the production of heat during fever. During the febrile state, thermogenesis is increased more in the liver than elsewhere. This fact is in accord with previous observations upon febrile rabbits with differential thermometry.

Hypodermic Injections of Serum in Cholera Infantum.—The *Gazette Hebdomadaire de Médecine et de Chirurgie* quotes Reinach of Munich, as having had a successful result in the therapy above indicated. Reinach had fifteen cases of cholera infantum in which he employed subcutaneous injections of cow's serum in doses of from 10 to 20 cubic centimeters. Four of the patients died; two had a concomitant broncho-pneumonia, and two had a follicular gastro-enteritis of long standing. The effect of the injections manifested itself ordinarily in from six to eight hours after the administration of serum, and from that time the temperature gradually rose, the extremities became warm, the cyanosis gave place to a rosy tint of the skin, and the diarrhea was arrested. This

condition generally continued on the following day, and recovery usually occurred after one injection only. In some cases, however, a second injection was necessary in order to maintain the good results which were obtained by the first one. Besides these injections, rice water was given. The author states that, from a nutritive point of view, twenty cubic centimeters of assimilable serum are equivalent to five ounces of cow's milk, or to an ounce and a half of the mother's milk.

Muscular Wry-neck.—KADER has had opportunity to study thirty-four cases of muscular wry-neck, and the results of that study, as published in the *Beiträge z. klin. Chir.*, vol. xvii, p. 207, form an instructive chapter in our still imperfect knowledge of this peculiar disease. In twenty-one cases the sterno-mastoid muscle was removed and microscopically examined. From these investigations, Kader concludes:

1. In muscular wry-neck, there exists an interstitial fibrous myositis of the sterno-mastoid muscle.
2. This myositis consists in excessive growth of the connective tissue of the muscle and degeneration of the muscular parenchyma, its place being taken by newly formed connective tissue, so that not only is the stroma thickened, but large patches are found which are partially or wholly connective tissue.
3. The myositis may affect the whole muscle or only a part of it.
4. The myositis has a chronic, progressive course, although its onset is marked by a more acute character.
5. The transformation of the newly formed granulation-tissue into old cicatricial tissue produces the contraction-atrophy and rigidity of the sterno-mastoid.
6. Other muscles besides the sterno-mastoid may be affected. If so, the same process takes place in them.
7. The alterations sometimes observed in the nerves are secondary to those of the muscles, and are to be looked upon as caused by the extension to the nerves of the inflammation going on in the muscle.

THERAPEUTIC NOTES.

Intestinal Antiseptics.—BOUCHARD recommends the following combination in cases of gastric and intestinal putrefaction, the diarrhea of typhoid, in poisoning by foods, and in dysentery:

℞ Finely pulv. β. naphthol . 15 grm. (3 iii, gr. xlv.)
Salicylate of bismuth . 7 grm. 30. (3 i, gr. l.)
Divide into thirty powders. S. from 3 to 10 a day.

Nocturnal Incontinence cured by Massage.—In the *Gazette Medicale de Paris*, October 17, 1896, BESTCHINSKY of Russia speaks of the efficacy of massage in nocturnal incontinence of urine, as follows:

The patient empties his bladder, then the bowels are well moved by means of an injection; he is then placed on his back, the legs flexed. The physician then puts his index-finger in the rectum and applies it obliquely against the neck of the bladder, thus producing a slight massage in the direction of the pubes. The other hand

is applied externally against the finger already in the rectum, in order that too great a pressure may not be made on the rectal wall. In this manner the massage is kept up for two or three minutes, then the patient reposes a little, after which the massage is resumed. One *seance* a day of from five to eight minutes' duration is enough.

In the cases so treated by Bestchinsky the incontinence diminished after ten *seances*; instead of appearing every night, it was reduced to twice a week, and after twenty applications the incontinence ceased entirely. The author recommends this treatment only in those cases where incontinence is the one symptom. Organic affections producing incontinence are a contra-indication, as are those cases where incontinence is purely a local symptom. The same author also cites an instance where music acted as a valuable therapeutic agent in the treatment of a similar case.

On the Manner of Employing Resorcin in Cutaneous Affections.—HARTZELL gives the following formulas for the use of resorcin in dermatology (*Rev. gén. d. Ther.*, November 8, 1896). In subacute moist eczema a two-per-cent. watery solution of resorcin is alone often sufficient to cure. Its sedative action is, however, increased by the addition of common salt. Thus:

℞ Resorcin 4 parts
Sodium chlorid 1 part
Distilled water 200 parts

In erythematous eczema a three-per-cent. watery solution of resorcin, to which glycerin is added (ten drops to the ounce of solution), if lightly applied to the inflamed area several times a day will give relief.

In weeping eczema the following formula is indicated:

℞ Resorcin 1 part
Dermatol 3 parts
Glycerin 1 part
Lime water 50 parts

If the skin is dry a resorcinated paste may be made of:

℞ Resorcin 1 part
Starch powder 8 parts
Oxid of zinc 8 parts
Vaselin 15 parts

In chronic squamous eczema resorcin is not of much use.

In ulcers of the leg, an ointment containing resorcin, two grains to the ounce, is soothing and stimulates granulation.

On account of its lack of color and odor it is especially adapted for use upon the scalp:

℞ Resorcin 1 part
Alcohol 50 parts
Vaselin 150 parts

The above ointment is to be rubbed into the scalp at night, and is to be used in cases of seborrhea, daily at first, and then on alternate days.

Under the influence of a plaster containing resorcin, rodent ulcer of the face may completely heal. Such a plaster should contain:

℞ Resorcin 3 parts
White wax 4 parts
Powdered resin 4 parts
Olive oil q. s.

THE MEDICAL NEWS.

A WEEKLY JOURNAL
OF MEDICAL SCIENCE.

COMMUNICATIONS are invited from all parts of the world. Original articles contributed *exclusively* to THE MEDICAL NEWS will after publication be liberally paid for (accounts being rendered quarterly), or 500 reprints will be furnished instead of payment. When necessary to elucidate the text, illustrations will be engraved from drawings or photographs furnished by the author.

Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	\$4.00
SINGLE COPIES10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in registered letters.

LEA BROTHERS & CO.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708 & 710 SANBOM ST., PHILADELPHIA.

SATURDAY, JANUARY 2, 1897.

ALBUMINURIA AS AN EARLY SIGN OF TUBERCULOSIS.

WITHIN the last few years, several clinical observers have claimed that in the early stages of tuberculosis, particularly when the disease involved the lungs, albumin could be found in the urine, and that in obscure cases in which the diagnosis of tubercular infection was doubtful, a urinary examination should be made, with the object of determining whether this additional diagnostic evidence was present. Quite recently Tiessier delivered a lecture in which he endorsed this view and expressed the belief that in these cases the albuminuria depends in no way upon a nephritis, and that it is usually met with in young persons, especially of the male sex. Curiously enough, he went still further, and claimed that it is found only in cases of hereditary tuberculosis, or, to speak more correctly, in those who have a strong predisposition to the development of this malady. In discussing the importance of this symptom and the possibility of its occurrence as a diagnostic factor of value, Saundby asserts his belief that the albuminuria is simply that which is seen so frequently in cases of profound debility, and that as

most cases of tuberculosis of a hereditary type are instances of profound debility, the albuminuria has no particular significance.

With this opinion we are inclined to agree, the more so as there seems to be reasonable doubt as to whether the so-called albuminuria of tuberculosis is really an albuminuria, or the albumosuria to which attention has recently been particularly called by Harris of Chicago. This condition is by no means infrequent in nearly all infectious processes, notably in tuberculosis, croupous pneumonia, the various other infectious diseases, and conditions associated with streptococcus-infection: in other words, the albumosuria or albuminuria, whichever it may be, is simply a manifestation of the infection of an individual by some microorganism; and while it is indicative of the development of an infection, it is not indicative of any one particular disease. Whatever, therefore, may be the ultimate value of this symptom in reaching a diagnosis in suspected cases of tuberculosis, at present it cannot be relied upon to any considerable extent.

Further than this, the fact that in the presence of suspected infection no albuminuria is found to be present does not even exclude the possibility of an infection, for in many such cases a careful microscopic examination of the urine, the sediment of which has been obtained by means of the centrifuge, will reveal casts of all forms, although careful chemic examination fails to reveal any albumin whatever. Thus Kössler, in a recent paper quoted by Saundby in the *Birmingham Medical Review*, found all kinds of casts in twenty-nine cases in which no albuminuria existed, although the greater number of the patients were suffering from an acute infective disease.

On the other hand, the presence of casts, according to Kössler, is not to be given too great pathologic significance, for he asserts that subsequent *post-mortem* examinations of the kidneys of some of these patients showed no structural evidences of nephritis whatever. In other words, the value of the urinary examination in cases of infection depends not only upon the finding of casts or albumin, but upon their association.

The well-recognized fact that a diagnosis cannot be made from a single symptom, but only from a number of associated symptoms, is once more emphasized.

A REVOLT AGAINST THE LODGE.

THE physicians of Santa Clara county, California, 124 in number, have associated themselves together and pledged themselves to do no contract work for lodges or other organizations at reduced rates. They estimate that heretofore lodge members have obtained medical service at the rate of about fifteen cents on the dollar.

The action taken by the Santa Clara physicians is in every way commendable, and is worthy of wide imitation. A similar organization should exist in every lodge-ridden community of the civilized world; but it is doubtful if such spirited enthusiasm and unanimity could be aroused in any other section of our broad land. Cliques and factions, combined with selfishness and competition, so distract most medical bodies that, even in the case of most crying evils, unanimous action is well-nigh unknown.

Lodge and other contract medical work is acknowledged by all thinking men to be degrading and demoralizing to both recipient and giver, and like the indiscriminate, gratuitous medical services of dispensaries tends toward the pauperization of both. There is no difference in the two conditions. Medical service given at less than its real value is charity, whether the recipient looks upon it so or not; and charity, unworthily bestowed, begets an unnatural dependence which is on the border of pauperism.

Fully fifty per cent. of the people pay their bills only because they have to, and doctor's bills come in for their full share of procrastination and neglect. The fallacious idea that physicians earn their fees easily incites this debt-shirking class to any and every expedient to get medical advice and treatment for nothing, or next to nothing. This is the sole cause of the fattening of dispensaries and clinics, and the prime *raison d'être* of the lodge. Tenaciously rooted as this conspiracy is, and appealing as it does to the self-interest and base ambitions of a few disloyal physicians, it has come to stay, in our larger communities at least.

For a time the 10,000 residents of Santa Clara Valley must pay regular rates for medical services according to their means. But in all probability it will be for a time only that the sovereign people of this sunlit vale will submit to such presumption on the part of their doctors, for it is safe to predict that

before the three years of the pledge expire, the lodges will have all the medical attendants they want. Struggling outside physicians will see in this state of siege a possible, although unenviable, chance for establishment, and will jump not only the county bounds but also the "Standing Committee," appointed to interview newcomers, and, to our shame be it said, some of the signers of this pledge, because of an imaginary or real need, weakness or cupidity, may backslide and join the foe.

There is one remedy, and only one, for these and kindred ills of the medical profession—a remedy neglected because apparently unattainable. We like to flatter ourselves that we belong to a noble and benevolent profession, and may we never forget it; but the sooner we convince ourselves that medical services are, within certain limits, subject to the same law of supply and demand as the trades or manual labor, or even ordinary commodities, the sooner we can apply the remedy. When the crop is light, grain is high; when the crop is bountiful, grain is low and perhaps is fed to hogs, or even used as fuel.

The present annual crop of doctors is certainly bountiful; what wonder then that fees are lowered, lodge and contract tyranny submitted to, and sometimes euthanasia sought as a relief from overcrowding and competition.

For these and most other ills of this kind the doctor has himself to thank; but it is not yet too late for us, by unanimous uprising, to curtail the output of medical colleges, or, better still, to shut up or consolidate about half of them. Many of them exist largely from selfish motives, and it necessarily transpires that many of their graduates are not infused with a high or lasting professional ideal.

What wonder then that some will sell their services cheaply to lodges, some descend to arrant quackery, and others, still, drift into abortion and other lawless practices!

Each physician of Santa Clara Valley must get his living from 565 of population, and therein lies the rub. It is time for him, and every thinking physician, to bestir himself and discourage young men, unless especially fit, from entering the medical profession by telling them truthfully how always laborious and generally unremunerative a physician's life is.

ECHOES AND NEWS.

Lunacy in London.—The number of insane in the city of London is reported to be above 13,000, with an average increase of more than 600 each year.

Jenner Memorial.—A public movement is on foot in London to raise funds to establish some institution in connection with the British Institute of Preventive Medicine as a memorial to Jenner.

The Cullingworth Fund.—The subscription to the fund to reimburse Dr. Cullingworth for the expense he incurred in defending himself in the recent suit for damages are already sufficient to meet the expenditure and no more will be received.

A New French Hospital in Constantinople.—About one hundred years ago a French hospital was founded in Constantinople. It has recently been rebuilt in accordance with the modern idea of sanitation and asepsis, and was formally opened on December 12, 1896.

The King Humbert Hospital.—After three years being occupied in its erection, the Royal Hospital at Monza, Italy, has been formally opened by King Humbert, whose name it bears. It will accommodate nearly three hundred patients and in the detail of its appointments is thoroughly modern and unusually complete.

Valuable Goods in Small Packages.—A Mrs. Donaldson of Camden, N. J., recently gave birth to a perfectly-formed, healthy child which weighed but seven and one-half ounces. Its head could be contained in an ordinary teacup, and its hand covered by a silver 25-cent piece. At last accounts it bade fair to thrive.

Beriberi in Dublin.—The epidemic continues. In all, 113 persons have been attacked. Of these seven have died. The marked symptoms in the majority of the cases are weakened heart action, paresis of the leg muscles, and localized anesthetic patches. A tendency to relapse is a marked feature of the epidemic.

Filmogen.—At the Medical Club of Vienna, Schiff recently described an agent for covering denuded cuticle under the name of Filmogen. This is a solution of nitrous cellulose in acetone, combined with an oleaginous base. It forms a yellowish semi-fluid body, insoluble in water, flexible when dry, and causes no pain to the denuded surface.

Lumbar Puncture in Plumbic Encephalopathy.—Dr. See-gelken, assistant to the Medical Clinic at Jena reports a case of coma due to lead poisoning in which the patient's life was saved by lumbar puncture. About two ounces (60 grams) of cerebro-spinal fluid were withdrawn, after which the patient promptly recovered consciousness, and all symptoms disappeared within thirty-six hours.

The Delirium of Talk.—The *British Medical Journal* directs attention to this prevalent affection. It is said to present its most dangerous phases in the inflammatory oratory of the present day. No class seems wholly free

from its influence, while the highest pitch of destructive fury is found among politicians. It is cautiously suggested that the clergy are not unknown among its victims, and even doctors are not wholly excluded.

Meeting of the Western Ophthalmological Association.—The Western Ophthalmological, Otological, Laryngological and Rhinological Association, of which Dr. Adolf Alt of St. Louis, is president, and Dr. Hal Foster of Kansas City, Mo., is secretary, will hold its annual meeting in St. Louis on the second Thursday and Friday of April, 1897. Physicians desiring to read papers are invited to send subjects to the secretary at once. Programs of the proceedings will be issued early in February.

Poison in Cosmetics.—At a recent meeting of hair-dressers in Paris, it was stated that the rice-powder, sold largely to ladies as a cosmetic, was by no means so harmless as its name indicated, but contained varying proportions of white lead, chalk-starch, and alabaster. Many years ago, owing to the chemical investigation of the face-powders at that time popular with American ladies, this evil was in a great measure corrected, but it is not at all improbable that it is again a source of danger in America as well as in France.

Hygienic Examination of Schools.—The Board of Health of New York City has received an appropriation of \$47,500 for the establishment of a special corps of medical inspectors, whose duty it will be to look after the health of all the children attending the public and parochial schools, and to exercise a supervision over the sanitary conditions of all the school buildings under the jurisdiction of the Board of Education. The system, which will be introduced at the beginning of the year, is already in vogue in London, Paris, and Boston, and has met with encouraging success.

Charges against Dr. E. J. Tucker.—Dr. E. J. Tucker, chief of the medical staff on Randall's Island has been charged with general inefficiency and lack of medical experience, and it is probable that he will shortly be summoned before the Commissioners of Charities and Correction to refute the charges. It is said that he owes his appointment to political influence, that he is a dentist by profession, and that he has not written a medical prescription since assuming the duties of the position. Dr. Tucker claims that the charges have been instigated by a discharged nurse, and that they have no foundation in fact.

Intestinal Absorption and Excretion.—Herr Hoinjmann has recently made some interesting observations in the case of a woman, who, in the healing of an abdominal abscess, had the misfortune to have the colon completely excluded from participation in the process of digestion. The chyme was discharged from a fistula involving the latter part of the ileum. Only four per cent. of fats were discharged, showing that they are absorbed by the upper intestinal surface. Albumin, however, escaped in considerable quantity, as was also true of iron when administered, showing that the colon plays an important part in their assimilation.

The Oyster and Disease.—On December 5th, Dr. Thorne delivered a lecture before the National Health Society in London upon "Oyster-culture in Relation to Disease." In this he stated that the oyster had been definitely proven to be a carrier of the specific microbes of cholera and enteric fever, and in at least one instance the bacillus coli had been found inside the mollusk. It was conclusively shown, he thought, that great danger attended the consumption of oysters fattened in waters contaminated by these and kindred germs, and in future a guarantee to the effect that their beds were free from pollution should be demanded of those engaged in oyster-culture.

Quack-medicine Manslaughter in Dublin.—A most distressing fatality occurred in Dublin ten days ago by which a young clergyman lost his life. It was shown at the inquest that he had suffered from neuralgia, and one of those busybody friends who abound everywhere, undertook to cure him by a nostrum which some one told him that some other person had heard was efficacious in some one else's case. Having procured this stuff he gave it to the servant girl without instruction, written or verbal, as to its use, and she left it on the supper tray where the victim found it and swallowed it, dying within a few minutes from poisoning by the aconite which it contained. In this transaction there is nothing but the familiar elements of the average patient who is stupidly willing to swallow any nostrum that an equally stupid and ignorant friend extols.—*Med. Press and Circ.*

Fire at the New York Polyclinic.—A disastrous fire, which had its origin in an adjoining building, completely gutted the fourth floor of the New York Polyclinic Medical School and Hospital, early on the morning of December 25th last, and placed in imminent danger the lives of some sixty-five patients, all of whom, however, by the active efforts of the nurses, physicians, and members of the police, were removed in safety. The number included some twenty or more children from the orthopedic wards, and several upon whom laparotomy had been performed on the immediately preceding days. No untoward effects of their hasty removal into the bitterly cold air have resulted. The faculty of the Polyclinic immediately arranged for roomy temporary quarters a short distance from the site of the fire, and the regular order of clinics and lectures was resumed before the large class of students on the 30th ultimo.

Twelfth International Medical Congress.—Claudius H. Mastin, M.D. of Mobile, Ala., has been requested, and has consented to serve as one of the members of the American National Committee of the Twelfth International Medical Congress, to be held at Moscow, August 19-26, 1897. The Central (Moscow) Executive Committee consists of the following gentlemen:—President, Professor I. F. Klein; Vice-President, Professor A. J. Kojewnikow; Secretary-General, Professor W. K. Roth; Treasurer, Professor N. F. Filatow; Secretaries, Professor P. I. Diakonow, Professor A. J. Tikhomirow, Professor I. I. Neyding; Members, Professor S. S. Korsakow,

Professor J. F. Ognew, Professor W. D. Cherwinsky. It is officially announced that preparations are being made for the reduction of Transatlantic steamer and European railroad fares. A. Jacobi, M.D. of New York, is the Chairman of the American National Committee.

One Solitary Medical College in North Carolina.—Mr. S. P. Stafford, of the class of 1897, medical department, University of Pennsylvania, calls attention to the fact that an error occurs in a recent editorial which appeared in the NEWS in connection with the statement that there is not a single medical school within the confines of the state of North Carolina. He speaks most highly of the Leonard Medical College, located at Raleigh, N. C., and also volunteers the information that it was organized in 1882, that it has a corps of ten professors, and that from sixty to seventy-five students are graduated yearly. While the correction is cheerfully made, and acknowledgments tendered to our correspondent, it is to be regretted that North Carolina must descend from the proud pedestal upon which our imagination had placed her. A city, to say nothing of a State, without half a dozen actively working schools of medicine annually turning out scores of young practitioners to battle unsuccessfully against the dispensary evil, is a *rara avis* deserving of our highest admiration and respect!

Surgeon-General Robert Adair.—The hero of that fine ballad "Robin Adair," was a dashing young Irish surgeon, who, about the middle of the last century, finding his way into London society, was fortunate enough to secure the affections of Lady Caroline Keppel, daughter of William, second Earl of Albemarle, and his wife, Lady Anne Lennox, daughter of Charles, first Duke of Richmond. The match was naturally looked on with disfavor by the family of the young lady, and it was during a period of temporary separation that Lady Caroline is said to have written the words of "Robin Adair," and set them to the old Irish tune of "Eileen Aroon," which she had learned from her lover. At length, however, love triumphed, and the pair were united on February 22, 1758. Within a few days Adair was appointed inspector-general of military hospitals, and, subsequently, becoming a favorite of the king, was made surgeon-general, king's sergeant-surgeon, and surgeon of Chelsea Hospital. He died in 1790.—*Notes and Queries.*

CORRESPONDENCE.

THE FUROR SCRIBENDI.

To the Editor of the MEDICAL NEWS:

DEAR SIR: Your little editorial, "The Furor Scribendi," no doubt stirred a responsive chord in the bosom of many a reader. Are we poor folks to be considered merely a passive machine, a sort of many-mouthed, but voiceless hopper, into which is to be cast a lot of offal? As a matter of fact, the thing is getting unbearable, and I seriously think of taking "arms against a sea of troubles and, by opposing, end them." It must be delightful for the one possessed of the furor scribendi to count off and

contemplate in advance the number of blows he can inflict on his poor, suffering, passive victim. For example: I go to a meeting of our State Medical Society and hear a paper read; the paper is good or indifferent, as the case may be. The paper, with its fellows, and the discussion thereon, is printed in the Transactions, bound in a volume, and eventually finds a place on my shelves. So far, so good; no harm is done. I can take up the volume at an idle moment, go over its pages, and feel a thrill run up and down my back whenever my eyes rest on my own name and that of some colleague whose paper I trailed in the dust. Or I can indefinitely dispense with the electric shock, and allow the Transactions to rest and get covered with dust and cobwebs. But I little know the man possessed of a furor scribendi. When the society meeting has fairly retired to some Rumpel-kammer within my skull, I get a reprint (compliments of the writer, Mr. Editor), and that meeting is hauled out from its retirement. A glance at the reprint does the work; I am very impressionable, and surely it would be sacrilege to throw my friend's reprint into the waste-basket without a glance.

After the reprints from the Transactions are exhausted I breathe easy for a while, and regain a feeling of security. But that crowd, Mr. Editor, is sly—devilish sly. All unprepared and innocent, I am jumped upon by all of them at once, and am made to pay for the privilege, too! Upon a preconcerted signal, they invade my medical journals, and I am buried under a mass of that stuff which I have twice shoveled aside. The cold sweat stands in beads on my brow; I sink back speechless, if not exhausted, nearly, if not quite, knocked out. I know they have yet another arrow, another string to their bow—the reprints from the medical press.

Now, if those possessed would give us an inkling when and where the casting-out process is to take place, and would confine themselves to one place and time, we might evade them; as matters are, there is no escape. Like the bacteria, the possessed are ubiquitous, and are fighting "with daggers of lath." I am resigned; I am prepared "rather to bear those ills we have than fly to others that we know not of."

Very truly,

ALFRED F. FUCHS, M.D.

P. S.—Send me reprints! Shall I not have my pound of flesh?

LOYAL, CLARK CO., WIS.

December 19, 1896.

OUR PHILADELPHIA LETTER.

[From our Special Correspondent.]

ORGANIZATION OF THE PHILADELPHIA PEDIATRIC SOCIETY.—MEETING OF THE COUNTY SOCIETY.—A UNIFORM STANDARD OF MEDICAL EDUCATION.—INFLUENCE OF PREGNANCY ON IDIOPATHIC EPILEPSY.—APPENDICITIS.—CHOLECYSTOTOMY.

PHILADELPHIA, December 26, 1896.

In response to a call issued recently about 125 physicians assembled on the evening of December 22d at the College of Physicians to form what is now known as The Philadelphia Pediatric Society. The meeting was duly

called to order, and the following officers were elected to serve for the ensuing year: Dr. J. P. Crozer Griffith, president; Dr. E. E. Graham, Dr. A. V. Meigs, and Dr. Frederick A. Packard, vice-presidents; Dr. Alfred Hand, jr., secretary; Dr. C. F. Pettibone, treasurer; Dr. Charles W. Burr, Dr. William B. Atkinson, Dr. Alfred Stengel, Dr. Thompson S. Westcott, and Dr. William C. Hollopeter, executive committee. A Constitution with By-Laws was then adopted, and the second Tuesday of each month appointed as the time for meeting. The objects of the Society, briefly stated, are the exhibition of cases, the verbal or written reports of cases of interest, the exhibition of pathological specimens bearing upon pediatrics, and the presentation of special papers, or the holding of pre-arranged discussions of special subjects.

At a stated meeting of the Philadelphia County Medical Society, held December 23d, the following papers were read and discussed: Dr. Silas Updegrave supplementing a paper read by him May 13, 1896, treated at length of "A Uniform Standard of Medical Education for the Degree of Doctor of Medicine." His suggestions were somewhat radical, and time alone will reveal their practicability. The subject of an exhaustive research by Dr. F. Savary Pearce was "The Protean Influence of Pregnancy on Idiopathic Epilepsy." After consulting the records of a number of hospitals, private institutions, and obtaining a case here and there in private practice, he had compiled a series of some twenty cases illustrating his subject. As a rule the findings were that during pregnancy the seizures, either of *petit mal* or of major epilepsy, were lessened in frequency and violence. One of the cases quoted by Dr. Pearce brought to light a rather peculiar and interesting point. A woman throughout her pregnancy, which had progressed well into the latter half, had had numerous generalized attacks of *grand mal*, lasting for several hours. Labor pains now came on, and the attending physician on examination found a mal-presentation. Version was done with a view of expediting delivery. The pains of labor ceased, however, and the woman went on to full term without the recurrence of a single epileptic seizure. An attempt to explain the total cessation of these attacks after versions involves one as deeply as does the making of a satisfactory hypothesis as to the cause of so-called idiopathic epilepsy, which is itself, as one of the numbers present aptly expressed it, an hypothesis to everyone save the man who has it.

D. Mordecai Price reported a number of interesting cases in abdominal surgery. Speaking of the diagnosis of appendicitis, he divided the signs into two classes, one of which pointed correctly toward the affection named, and the other group, which he called "symptomatic," indicated rather impaction. He said were he called, in consultation, to a case with or without the obtainable history of abdominal injury or overindulgence in eating, a mass suddenly appearing in the right iliac fossa having no tendency to enlarge, pain localized in that area, a temperature of 1, 2, or 3°, his judgment would incline rather to the symptomatic group, and he should advise free purgation, rather than operation. Citing a number of cases to prove his point, he went on to say that he considered the

early appearance of a lump in these cases rather as a sign of good omen than the opposite. Increase in the size of the mass, a chill, a temperature normal, or below that point, with a pinched expression about a face already anxious, would incline him to the belief that pus was present and that operation was indicated at once. Absolute freedom from fear in the establishment and maintenance of free drainage is essential to success in such cases. Of operations on the gall-bladder, he reviewed a number of cases—one particularly interesting because of its peculiar and tragic termination. A large woman, sixty-five years of age, had had periods of acute suffering covering twenty years. When he was called to see her, he found her jaundiced or, rather, bronzed to a depth of color that only the hypothesis of malignancy complicating impaction could satisfy. Acute, intense pain in the right shoulder and elbow was complained of. Upon operating, he found the gall-bladder enormously distended, out of position, containing large stones almost four inches in length. Several of these were easily removed, the last and longest with the greatest difficulty, after exerting extreme caution. The edges of the gall-bladder were then stitched to the abdominal wall, free drainage established, and the case progressed favorably until the fourth day, when the woman was unexpectedly found dead in bed, deluged with blood. Exploration revealed the fact that one of the large stones had, with its sharp facets, sawed through the abdominal aorta, so weakening it as to cause it to rupture under the circumstances mentioned.

OUR PARIS LETTER.

[From our Special Correspondent.]

THE UNIVERSITY OF PARIS ORGANIZED—FOREIGN DOCTORS IN FRANCE—OPPORTUNITIES OFFERED BY THE PARIS CLINICS—ALCOHOLISM IN FRANCE—JEAN CHARCOT, M.D., MARRIES MME. JEANNE HUGO, ETC.

PARIS, December 1, 1896.

During these last few days decorators have been lettering the various buildings of the medical school with the words: "University of Paris." The legend is the external manifestation of the vital internal development that has led to the union of all the teaching faculties in Paris under one governing body. It was formally acknowledged at the Sorbonne on November 19th, when, in the presence of all the faculties of the university, of all the high officials of France—civil, military, and naval, of the representatives of all the foreign governments, and of all the members of the various academies ('the immortals'), the President of the Republic, inaugurated the University of Paris. The independent examining boards created by Napoleon I. in 1808 have gradually acquired the powers of faculties, and being drawn together by mutual interests, have gained solidarity in their evolution, and this formal inauguration is not a new creation but a legal adoption of the existing state of affairs by the Republican Government.

The law that formulated the new state of affairs has its interest for foreign medical students. Hereafter no foreigner will receive the degree of Doctor of Medicine un-

less he expresses his intention of practising outside of France. Moreover, as the applications for service in the hospitals, an important part of the medical training for two or three years of the course here, are already too numerous, no foreigner will be granted the privilege of being an interne in Paris, though I believe they may still be received as such by the other faculties of France.

This practically closes the door against foreigners for undergraduate medical studies. The impression has somehow got abroad that this influences the position of those who wish to do post-graduate work, but this seems absolutely without foundation. American doctors particularly, if I may judge from my own experience, and know it is not exceptional, are heartily welcomed. Privileges are accorded for the asking that would be unthought of in America. Doctors may hear all lectures and attend all clinics, accompany any physician or surgeon in his visit to his wards, and take a number of special courses simply on the presentation of some formal evidence to the Dean that he is a regular graduate. He may follow all the ordinary practical courses—dissection, physiology, bacteriology, pathological anatomy, etc., on the payment of one fee—forty francs (less than \$8). Besides he may if he shows an interest in certain specialties have the opportunity to see all the clinical material in such immense institutions as *La Salpêtrière* *Beckère*, for nervous diseases; *St. Louis*, syphilis; or *L'Asile Ste. Anne*, mental diseases. After a while one almost gets the feeling that it is an imposition on good nature, so cordially do the great French clinicians put themselves at one's service. There is but one objection, and that is the distance one has to travel for material. Taking the medical school as a center, *La Salpêtrière*, *St. Louis*, *Ste. Anne*, and the Pasteur Institute, are at the ends of four about equidistant radii, and each two miles at least away from the school.

The new University of Paris begins with about 26,000 students, having gained 10,000 students in ten years, about the same rate of increase as at the University of Pennsylvania (considered wonderful with us), only what the latter has gained in hundreds Paris has gained in thousands. Of these, 5144 are medical students, a decrease of over 300 from last year, attributed by the Dean, who officially announced the attendance November 26th, to the regulations regarding foreigners. At present the number of foreign undergraduates is about 900.

There is just now considerable interest in the question of alcoholism here in France, and a decided effort is being made to secure the passage of sumptuary and revenue regulations to regulate the evil. The discussion has brought out very clearly one important fact. It has been the custom to say that the evils usually attributed to alcohol (disease, degeneration, insanity) were not due so much to the amount of the alcohol consumed as to the quality of it. As is often said in America, it is the fusel oil, the paraldehydes, the higher alcohols, and certain poisonous ethers contained in poor whisky that makes its ravages so serious among the poor. Repeated chemical analyses at the Sorbonne of series of liquors selected for the purpose show that these substances are present in quantities so small that practically they may be entirely

neglected in the results produced. Joffroy of *L'Asile Ste. Anne*, has published a series of experiments to the same effect, from a biological standpoint. It takes no more of the poorest alcohol obtainable to kill an animal than it does of the very best. The vile-smelling, bad-tasting, often ill-looking alcohol that comes over at the very beginning, or again near the end, of the distillation of a quantity of liquor will kill an animal, when injected, no sooner than the bland, oily alcohol, with its pleasant "bouquet," that comes over in the very heart of the distillation. The experiments have been repeated often enough to give the assurance that the conclusion is correct.

The whirligig of time and one of the freaks of the little love-god have brought about a marriage that has attracted a good deal of attention in medical circles here and in England. Jean Charcot, M.D., the son of the famous Charcot of *La Salpêtrière*, married last week Mme. Jeanne Hugo, the granddaughter of Victor Hugo. Mme. Hugo is the divorced wife of M. Leon Daudet, the son of Alphonse Daudet, the writer. It was after his marriage with Mme. Hugo that Leon Daudet wrote his infamous book, "*Les Morticoles*," a satire that is intensely bitter on the medical profession of Paris. He had studied medicine for five years, had failed three times in his examinations for interne of the hospitals, and then took this means of avenging his failure. His father's name, and the love of the Parisians for anything new, especially when it is abusive of existing institutions, gave the book a vogue that it is hard for an American to understand, for it is in a way the recapitulation in a grossly exaggerated form of everything hard that has been said against the medical profession from the beginning.

December 8th.

The sudden death has just been announced of Professor Strauss, who has occupied the chair of experimental and comparative pathology in the medical school of the University here. Professor Strauss was only fifty-one years of age, and his death comes as a great shock to his colleagues in the faculty. He was one of the men who gathered around Pasteur when that great master was doing his wonderful experimental work and who, having imbibed his teaching and learned his methods, have been able to carry on his work. His observations on glanders, with Roux and Nocard at Alexandria, and with Roux at Marseilles on cholera at the time of the last epidemic, brought him prominently forward. Of late years his experimental work with regard to the contagiousness and heredity of tuberculosis, attracted world-wide attention. His experiments with Gamaleia on the relations between human and avian tuberculosis did a great deal to bring into relief that important and vexed question. Only last year he published his book of one thousand odd pages on "Tuberculosis and its Bacillus," which is the best and most complete study of the subject to date. In 1888 he succeeded to Vulpian's chair in the faculty of Paris. While Vulpian had taught experimental medicine mainly from a physiological standpoint, Strauss saw the direction in which modern scientific medicine was drifting and at once practically made the chair one of bacteriology.

On the first Monday in December of each year, Pinard at the Baudelocque Clinic of Obstetrics, invites all the patients on whom he has performed symphyseotomy to return for examination before the class. It is the best possible demonstration of the after-effects of the operation as regards locomotion, etc. He then gives his statistics for the past year, and any changes in the indications for operation or any modifications of the technic he has seen fit to adopt. So far, Pinard has performed 82 symphyseotomies, with a mortality of 9 mothers and 12 children. None of the mothers died directly from the operation, but usually from some intercurrent disease due to the protracted labor. They are often in labor for days before being brought to the clinic. The children were born dead in all but 4 of the fatal cases, and death was usually due to the same causes as those present in the mothers. During this past year he has operated 14 times, with 2 maternal and no infantile deaths. One of the mothers died on the sixth day from lobar pneumonia, the pneumococcus being found after section; the other died from septicemia. In twelve instances he has done symphyseotomy more than once on the same person. Union of the symphysis has always taken place, and none of the functions of the pelvic joints have been disturbed.

As regards indications for the operation, no changes are to be noted except that as time goes on nature is trusted more and more in contracted pelves, and spontaneous deliveries are patiently awaited. Out of 95 contracted pelves at the clinic during the year, 68 were delivered spontaneously, and in but 14 was symphyseotomy needed. As to technic, the points special to Pinard seem to be: "Never open the symphysis more than 7 cm., not from fear of injury to the sacro-iliac synchondroses, but because it will cause injurious tension on the soft parts. In primiparae always dilate the vagina with a water-bag before delivering. In extreme contraction version is indicated. No bony sutures are necessary, and if used they may lead to suppuration."

Three of Pinard's great maxims are prominently displayed on a large tablet in his clinic room:

"Embryotomy on a living child is a thing of the past."

"No pregnancy should ever be interrupted prematurely. Infants delivered this way, as a rule, either die within a few days or live, miserable weaklings in mind or body."

"The child has the right to its mother's milk."

Last year at the Baudelocque, there were 2100 labors, with a mortality from all causes of less than one-half per cent.

Last week I was present at a demonstration on the part of the students, who were resolved not to listen to the lectures of one of the assistant professors. Professor Farabeuf is ill, and after some delay Assistant Professor Sebileau was chosen to give the lectures on anatomy in his stead during this semester. Dr. Sebileau has rendered himself obnoxious to the students by the rigor of his examinations, and by having opposed several student-movements last year. His opening sentences were greeted with catcalls, cheers, stamping, and general confusion. Every time he tried to begin his lecture the same perform-

ance was repeated. Finally, after twenty minutes' effort to be heard, he sent word to the dean.

Professor Brouardel (the dean), who seems to be quite popular, received a very cordial welcome. He was listened to attentively while he explained that the lectures on anatomy would have to go on. Then he sat down, and Dr. Sebileau attempted to talk, but it was of no use; the crowd at the back of the immense amphitheater and in the doorway would not allow him to be heard. The dean once more interfered and was listened to, but they would have none of Dr. Sebileau. Finally, the dean announced that if the lectures on anatomy were not given this semester there would be no examination in the subject this year. This brought the crowd to its senses, and any attempts at disturbance thereafter were promptly put down by the students themselves, and the lecture proceeded more or less peacefully. Time is precious to the Parisian medical student, and the loss of a half year would be a serious thing. At twenty-six he must have his degree, or else serve his full three years as a soldier like the rest of mankind in France. He is exempted from two years of military service, but on the condition that he be either a practising physician or an interne of one of the hospitals before he is twenty-seven. When between the ages of nineteen and twenty-seven, a young man has to devote one year to military service and five years to medical studies, the missing of an examination means a good deal.

Some recent reports to the Academy of Medicine, to the Society of Biology, and the Hospital's Union seem to show that the injection of artificial serum (normal salt solution) may prove as useful to the physician as it has to the surgeon. It has been tried with excellent results in the gastro-enteritis of children where this is accompanied by exhaustive diarrhea or rapid collapse; in a word, in the choleric conditions. It has been used in animals in poisoning cases, especially in poisoning by strychnin, with encouraging results. In both classes of cases, the indications that it meets seem to be the depression of nerve-force and the consequent defective elimination. The increased blood pressure seems to lend tone to nerve centers, and hasten elimination this way and mechanically, besides diluting materially toxic substances that are present.

A modification of this artificial serum-therapy has been reported as giving good results in the infectious fevers. It has been tried particularly in pneumonia and typhoid fever. The patient is bled several times in the early stages of the disease, and each time the amount of blood taken is replaced by normal salt solution. Toxins are thus effectively disposed of, yet without materially weakening the patient. The remedy would seem to have a field for usefulness in such states as uremia, chronic and acute lead poisoning, and diabetic coma; in a word, in any condition where symptoms are the result of the presence of toxic elements in the circulatory system.

Foreign Doctors Excluded.—Italy is trying to conform to the illiberal precedent of her French and Swiss sisters, and to impose prohibitive conditions on practitioners of non-Italian qualifications.

TRANSACTIONS OF FOREIGN SOCIETIES.

Paris.

PROLAPSE OF THE RECTUM.—SUTURE OF INTESTINAL PERFORATION DUE TO TYPHOID FEVER.—CURE FOR VOMITING IN PHTHISIS.—SALINE INJECTIONS.

AT the Société de Chirurgie, November 11, 1896, BAZY presented a woman upon whom he had performed an operation for prolapse of the rectum nearly three years previously. The prolapse formed a mass measuring 18 by 14 cm., and it was reduced and stitched by five sutures to the coccyx by the method first described some years ago by Gérard-Marchant. Recovery was complete, and there had been no relapse, although pregnancy and a miscarriage at the seventh or eighth month had since occurred.

GERARD-MARCHANT, who was present, mentioned other cases in which the results of this operation—recto-coccyx—had satisfactorily stood the test of time. The more recently devised colopexy in which an attempt is made to hold up the rectum by stitching it to the sigmoid flexure has not been in use long enough to test its merit.

At the session of November 18, 1896, the subject was still further discussed, and NELATON stated that colopexy was only to be recommended in severe cases where other measures failed. A patient upon whom he had performed this operation died on the sixth day of septic peritonitis.

WALTHER described a congenital cyst of the neck, which was still small at six months, but when the child was a year old it had grown so as to seriously compress the vessels. Aspiration of its contents—serous fluid—gave immediate relief, but the cyst rapidly refilled. Such cysts ought to be removed entirely. Even if they are intimately associated with the blood-vessels, their attachment is usually such a slight one that the cyst wall can be peeled off without difficulty. An exception has to be made in favor of mediastinal prolongations, if such exist.

The suture of perforations of the intestine occurring in typhoid fever was recently discussed before the Académie de Médecine by MONOD. By further search through medical literature he found a total of 32 operated cases, with 5 recoveries. In 3 of these the record was not as complete as it should be. The other 2 recoveries were absolutely certain, and granting that every perforation occurring in typhoid fever is fatal, even this small percentage of recovery is sufficient to justify operation in every case in which the general condition of the patient will permit it.

In an operation of this kind performed by ROUTIER upon a patient eight or nine days sick with typhoid fever, the surgeon had no guide to the localization of the perforation other than the pain localized in the right iliac fossa. He found and sutured two perforations and left the peritoneal cavity open, draining it with gauze. Unfortunately, death followed in eleven days from new perforations occurring in the neighborhood of the sutured ones.

Further observations upon this subject were made at the session of November 25, 1896, when BRUN reported a case occurring in a boy of fourteen years who, during a

relapse after typhoid, and one month after he first entered the hospital, presented suddenly all the signs of acute perforation. On the following day, although septic peritonitis was well established, Brun opened the abdomen from the umbilicus to the pubis, found the perforation, sutured it, flushed the abdominal cavity with four quarts of boiled water, and closed the wound over gauze drains. Thanks to injections of serum the patient made a slight gain, but on the third day fecal matter appeared along the drains, and death followed on the seventh day after operation. The sutured perforation was in good condition, but there were five other perforations, and in the wall of the small intestine there was a considerable area, completely necrotic.

LEJARS has twice operated for typhoid perforation. In both instances with a fatal result. One of these failures was the more discouraging, in that the operation was performed in about sixteen hours, the perforation was easily found and quickly closed. The patient left the table in good condition, but died on the third day. No other perforations were found at autopsy, and the death was attributed to the typhoid fever itself.

At the session of the Société de Thérapeutique, held November 25, 1896, MATHIEN described his treatment for the vomiting of food in phthisis when occasioned by a persistent hacking cough. Attempts to control the cough and so prevent the vomiting by giving opiates, or by means of blisters and the cautery, have not been successful. The trouble lies with the too sensitive mucous membrane of the stomach. Mathien first gave his patients bits of ice to swallow after eating. This was successful in preventing the cough. Later he made use of chloroform water, one-half saturated, and menthol. Two to four teaspoonsful of the chloroform water and $\frac{1}{4}$ to $\frac{1}{2}$ of a grain of menthol, taken immediately after eating, has relieved this cough in his patients and prevented the vomiting.

FERRAND looked upon these attacks of vomiting after meals as reflex and often due to an excessive sensibility of the pharynx. In such cases he has practised with success the repeated application to the pharynx of a solution in glycerin of bromid of potassium, ten per cent. or even twenty per cent. This application should be made before meals. The effect is to diminish the sensibility of the pharynx and cause the vomiting to disappear.

At the Société de Biologie, November 28, 1896, ROGER explained the experiments he had undertaken to determine whether intravenous injections of saline solutions really do produce a *lavage of the blood* as has been claimed. They increase diuresis, but it does not necessarily follow that poisons in the body are thereby eliminated. To determine this point, Roger injected small quantities of cyanid of potassium into the veins of several rabbits. A part of the animals then received into their veins 100 to 160 c.cm. of saline solution. The presence of the cyanid in the urine was shown by a blue color upon addition of ferric chlorid. The reaction was obtained in the control rabbits in thirteen minutes, while in those which had received the saline solution it was evident in seven minutes. Further, it disappeared from the urine of these rabbits in

three hours and forty-five minutes, but lasted in the urine of the control rabbits four hours and a half.

Experiments with the indigo sulphate of soda gave similar results, and on account of the staining of mucous membranes and skin which follows the intravenous injection of this substance, the action of the saline injections could be followed with the eye. The blue tint disappeared more rapidly in those animals which received saline injection than it did in the control animals, so that the skin and mucous membranes of the former had resumed their normal color, while those of the latter were quite blue.

One is safe, therefore, in saying that the saline injection really does cause a lavage of the blood, or more correctly, a lavage of all the tissues of the body.

The clinical testimony to the action of saline injections in infants was brought out in the Société médicale des Hôpitaux, November 27, 1896, by BARBIER, who has treated a number of nursing infants suffering from intestinal infections, by subcutaneous injections of a sterilized solution, 7-1000. The injections were made under the skin of the sides of the abdomen, and did not exceed 15 c.cm. twice a day. Following the injections there was observed a stimulation of the whole organism, apparently the result of increased blood pressure and an elevation of temperature.

In general the injections are not indicated in acute infectious enteritis with fever, or in chronic enteritis marked by fever and progressive wasting. The injections did not have any action on the diarrhea, nor upon the other symptoms except the collapse, and there did not seem to be any real beneficial effect upon nutrition.

COMBY thought that saline injections were to be classed with caffeine and ether. They provoke a more or less active stimulation of the body, but usually only a temporary one.

HAGERN considered saline injections one of the most powerful of sthenic remedies. Looking upon them in this light, they were seen to be indicated in conditions resembling that of cholera, but probably would be found to be useless in gastro-intestinal dyspepsia.

Vienna.

RESECTION OF THE TRACHEA.—OSTEOMALACIA.

In the session of the Medical Society held November 13, 1896, FÖDERL presented a six-year-old boy upon whom he had performed resection of the trachea with circular suture. The child's trachea had been cut entirely through just below the cricoid cartilage. The posterior wall had been sutured immediately, and five days later the rest of its circumference was sutured except where a canula was kept in place. There was so much contraction in the scar that phonation was completely lost and symptoms of stenosis developed. Föderl performed tracheotomy low down, resected the scar tissue to the extent of $2\frac{1}{4}$ cm., and brought the ends together by a circular suture. The result was perfect.

In the Vienna Medical Club, November 11, 1896, HERTZ presented two patients suffering from osteomalacia. One of them was a shoemaker whose back for twelve years had been growing more bent. For a short time he

had noticed redness and swelling in certain finger-joints. Examination showed that rotation and anterior flexion of the head was impossible, owing to synostosis between the occiput and atlas. There was marked kyphosis. The pelvis presented the characteristic prominent symphysis seen in osteomalacia.

The swelling of the joints disappeared promptly after the administration of salicylic acid. Hertz was therefore of the opinion that the affection of the joints was rheumatic in its nature, and that the case was therefore either a combination of osteomalacia and rheumatism, or else that the whole process was rheumatic.

LATZKO considered this an undoubted case of osteomalacia, which he said often began with joint affections. Moreover, the fact that the patient was a man was nothing against the diagnosis. He had seen four cases of this disease in the male. He advocated the use of large doses of phosphorus, although they occasionally caused peristitis.

KASSIOWITZ believed that it is possible to secure the same effects with small doses of phosphorus. Even with children no symptoms of poisoning ought to follow its use.

SINGER thought the case presented was one of arthritis deformans, a disease which has many points of resemblance with osteomalacia, especially with the so-called senile form of the latter. He also called attention to the fact that pes valgus is often an early symptom of osteomalacia.

BRAUN was able to observe the motion of the heart in a case of extensive resection of the ribs. The apex of the heart does not move downward, outward, and to the left in systole, but upward and to the right. At the same time the base of the heart moves downward. The contraction of the left ventricle is very rapid like a flash, that of the right is a gradual, wavy motion accompanied by a similar motion of the pericardium.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

General Meeting December 3, 1896.

JOSEPH D. BRYANT, M.D., President.

THE MANAGEMENT OF PNEUMONIA.

S. BARUCH, M.D., read a paper with this title. (See page 1.).

DISCUSSION.

DR. CHARLES B. FOLSOM of Boston opened the discussion. He said that at the Boston City Hospital he had tested the cold-bath treatment in thirty-six cases of pneumonia, all of a severe type. The method consists in placing the patient in a sheet, and rubbing him with a towel and water at a temperature varying from 70° to 95° F., for about ten minutes. The patient is then wrapped in a blanket and allowed to rest for half an hour. Of these thirty-six cases, eight died, a mortality of 22.2 per cent. The mortality in that hospital for croupous pneumonia averaged about thirty-five per cent. Of the fatal cases,

one had typhoid fever, one had pleurisy, three were victims of chronic alcoholism, one had general diplococcus infection, as shown by the presence of endocarditis, pericarditis, and cerebral meningitis; one had chronic nephritis, and one had phthisis. As death was only hastened by an intercurrent pneumonia in the case of phthisis, the patient dying on the thirty-first day, and as the case of chronic nephritis was fatal on the second day, these might fairly be excluded. If this were done, the mortality would be 17.6 per cent. He had been convinced from the observation of these cases that the cold baths were very effective, and he was more than satisfied with the results. In marked contrast with the bath treatment of typhoid fever was the fact that all these patients said that the baths were grateful to them. In conclusion, he would say that these baths controlled the fever, diminished the cough, lessened delirium, and induced sleep.

DR. E. G. JANEWAY said that his experience had led him to dread the afebrile pneumonias of old people more than the highly febrile pneumonias of the young. In the former, neither cold baths or cool compresses had any place; all our efforts must be directed to sustaining the failing strength of the patient. These cases were exceedingly fatal notwithstanding the comparative absence of symptoms. We must look at pneumonia in several different aspects, and must take into consideration, not only the toxemia and the inflammation of the lung, but the individual reaction. Although the prognosis was necessarily very grave in cases in which as much as three lobes were involved, he had seen a number of these cases recover, and in these the treatment had consisted chiefly in the use of oxygen, alcohol, and the so-called cardiac stimulants. Oxygen was of special value when the breathing capacity was markedly diminished, and we could not afford to overlook this fact even though we called pneumonia an infectious disease. Heart stimulants might be required, either early or late, in this disease, and when such a contingency arises as edema of the sound lung, cardiac stimulants must be given hypodermically. He thought the cold compresses made the patients about as comfortable as any other measure, yet he was bound to admit that he had seen a number of pneumonia patients do very well with nothing but a flannel shirt. He was not one of those who believed in decrying the coal-tar series of drugs, simply because a number of physicians, following more particularly the example of the Germans, had observed bad results from their use in unnecessarily large doses. When administered judiciously in proper cases and in moderate doses, they would be found to be of very great value. For example, he had very recently seen a severe case of pneumonia with a temperature of 106° F. The patient had had but little sleep, was slightly delirious, and had a rapid pulse. In this case he had recommended giving five grains of phenacetin, and repeating it, if necessary, in two hours. As a result of this the temperature remained low for about six hours, and the patient slept well that night. True, the temperature rose the next day to about 105° F., but the next night a dose of six grains of phenacetin was sufficient to secure another good night, and after this the temperature remained

low, and the patient made an uninterrupted recovery. He mentioned this case because cold applications had been used to no purpose, while phenacetin had accomplished the desired result. Morphine might have done the same thing, but it would probably have also caused constipation and disturbance of the liver. Our rule in the use of these particular drugs, as with all others, should be to give the smallest dose which will accomplish the desired result. Much had been said about the responsibility of aborting pneumonia. Years ago he had been skeptical about the possibility of calomel doing this, as had been claimed, but since then he had occasionally observed cases which seemed to prove that this might sometimes occur. It was, however, decidedly exceptional. It was right and proper to make an effort to abort the disease, and hence if we saw a case in the chill stage, we should direct that the patient's feet should be kept in a warm bath for half an hour, and that he should be given hot drinks, sweet spirits of niter, liquor ammonii acetatis, and aconite, and subsequently, a large dose of quinin.

DR. W. P. NORTHRUP referred to a case in which he firmly believed that by the use of similar measures at the onset of the first symptoms he had succeeded in preventing the development of a genuine pneumonia. He said that he too had met with many cases of afebrile pneumonia in old people; but he was unable to say much about their treatment, as they had invariably proved fatal. In all cases of pneumonia he was particular about securing an abundant supply of fresh air to the sick room, if necessary, by keeping the patient near an open window. He had not the slightest fear of these patients catching cold so long as the feet were kept warm, and there was a high fever. He also gave oxygen in pneumonia, but usually, as he had said, by way of the window. He had learned from Dr. Baruch that a bath of 90° F. would often calm a very excitable patient with an alcoholic pneumonia, and would at the same time improve his general condition. He had proved by experience the benefits of hydrotherapy in pneumonia, and believed that in this disease the effect of such treatment could be briefly summed up by saying that it quieted the mental excitement, improved the quality of the pulse, increased the depth of the respirations, and promoted sleep.

DR. ALFRED MEYER said that he had tried the effect of the "digitalis treatment" of pneumonia in his service at Mt. Sinai Hospital, with the result that only two out of twelve patients died. According to the author of this treatment, the daily dose of the drug should be as high as 60 to 120 grains of the digitalis leaves.

DR. BARUCH, in closing the discussion, said that he had not observed any of these cases of pneumonia occurring in old age without fever, and with but few other symptoms. He could not subscribe to the recommendation of oxygen gas, for it seemed to him that according to the law of the diffusion of gases it could not be taken into the system in any quantity. He, however, approved very highly of the principle of this treatment, and made it a point to supply the patient with as much oxygen as he could absorb by giving him an abundant supply of fresh air. He approved of the use of digitalis as a heart stimulant in the

early stage of pneumonia, but in the later stages, when the heart was working hard to overcome the contraction of the peripheral blood vessels arising from the action of the toxins, the administration of digitalis did not meet with his approval; it seemed too much like spurring on a jaded horse. The failure of the cold applications in the case in which Dr. Janeway had found phenacetin so efficacious could in all probability be explained by the manner in which they had been made. As he had said in his paper, everything depended upon the exact manner in which the cold compresses were used. It was for this reason, he believed, that the profession had been so long in recognizing the great value of this method of treating pneumonia.

MEETING OF THE NORTHWESTERN MEDICAL SOCIETY.

October 21, 1896.

FREDERICK PETERSON, M.D., read a paper entitled MUSICAL AND ARITHMETICAL PRODIGES AND COURT-FOOLS.

He said that the term "idiots avants" is applied to all such idiots, imbeciles, or feeble-minded as exhibit special aptitudes of one kind or another, always out of proportion to their intellectual developments in other directions, and often remarkable as compared with similar developments or faculties in normal individuals. He spoke of the many cases of this kind recorded in the literature, and of those who are exhibited as musical prodigies, calculating boys, and the like in the museum.

Precocity and an extraordinary power of the faculty of mental arithmetic have been frequently noted in idiots. This faculty consists entirely of excessive powers in simple calculation, and is observed only in the congenital variety of idiots, imbeciles, and degenerates. In idiots, in whom the musical faculty is well developed in contrast to the general intellectual paucity, it is not of a high order. It consists of a remarkable auditory memory, together with a power of expression by means of the vocal musculature or fingers of the musical memory stored up in the brain. There is no spontaneous musical expression, no power of invention.

Examples of idiots avants with talents bespeaking disproportionate development of the visual centers, together with the power of reproduction by modeling, drawing, or painting, are occasionally to be met with.

Among idiots, imbeciles, and feeble-minded it is not uncommon to meet cases with an aptitude for drollery, and given to witty or humorous remarks and actions. The court-fools of Shakespeare are the types of this class of degenerates. Any quick-witted imbecile or feeble-minded individual in ancient times had no difficulty in securing a good livelihood, and sometimes even prosperity and fame. Under such conditions it became common for normal individuals to adopt the calling of the jester or buffoon, and these were known as artificial fools. The reader summarized in the following:

The idiots avants are mere copyists in music, modeling, designing, or painting. Yet at the same time their

talents stand out in strong contrast to their general feeble-mindedness. As a rule the aptitudes are precociously developed, and are frequently lost before reaching adult life. The physical basis of such talents must be a precocious perfection of the cerebral organization in certain areas, together with a true hyperplasia of tissue in such regions, and a tendency to early degeneration. There must be an increased number of cellular elements and sensorimotor combinations and associations in definite parts of the brain. Cases of misplaced aggregations of such tissues in the brain have been described under the name of heterotopia of gray matter, and it is possible that some such unequal distribution of the structures underlying psychological processes will be found to account for the presence of the extraordinary talents of idiots savants.

DR. FRUITNIGHT thought that the intellectual possessions of these degenerates were confined exclusively to the imitative faculty.

DR. NEWMAN said that if we could have *post-mortems* and careful histological study of some of these cases, it would be of great interest in going to establish the anatomical substratum of their possessions and defections.

DR. BULKLEY asked if the reader of the paper had given any consideration to the theory propounded by Hudson, particularly in regard to the subjective and the objective mind. He thought it worthy of consideration by physicians, especially in the explanation of faith-cures, hypnotism, and the phenomena of love.

DR. BURCHARD mentioned an opportunity which he had had to observe the case of an idiotic girl who evinced remarkable mathematical power, on whom Charcot made some of his first experiments in hypnotism. She could add, multiply, and divide with astounding rapidity and accuracy, and perform the most perplexing tasks in mental arithmetic, yet she was a typical idiot in almost all other respects.

PROFESSOR PUPIN of Columbia University said that when lines of social divisions were much more strictly drawn than they are to-day, it was those of the inferior caste who devoted themselves to music, and not the masters. Among the Slavs and Italians, and some others of the Latin race, there are found many who excel in particular things, and especially in the productiveness of their emotional side, but often such excellence is associated with a lack of proper balance or interrelationship of all their mental possessions. On the other hand, the Anglo-Saxon race possessed this desirable balance of mind to an exceptional degree; in fact, that is their distinguishing characteristic.

DR. H. L. TAYLOR alluded to the fact that advanced educators aimed to ascertain the special aptitudes of their pupils, in order to use them as centers for the coordination of studies, and as a basis for introducing the child's mind to related topics. He asked if the special aptitudes of the defective might not be similarly used, so that deficient parts of the mind might be educated by means of the proficient.

DR. PETERSON, in closing the discussion, said that he had collected as many cases from the literature as he could find to call the attention of pathologists to the subject.

Precocity was a condition that was of interest in considering the subject of idiots savants, as the two are perhaps somewhat allied. The contentions of Hudson he believed to be speculative, without justifiable premises. There certainly exist many cases of absolute idiocy. Any faculty that defective children have well developed, be it visual, auditory, or other, should be developed, because through it, later, the necessary associative faculties may be developed.

He thought that music was a sensual, not an intellectual art. Intellectual men take up pursuits that are engrossing, and music remains for them an indulgence. Those of inferior possessions may be unfit for such pursuits, and music may be for them an occupation, and a very absorbing occupation.

In the time of court-fools, those who were odd in body as well as in mind were selected for this office, and if they were not fools by nature, they sought to become fools by artifice, because of the profitable nature of the calling. Any physical deformity, such as ugliness, dwarfishness, kyphosis, clubfoot, etc., was always of genuine advantage to the artificial fool.

PROFESSOR PUPIN of Columbia University exhibited a "focus tube" containing two electrodes, the cathode one concave, the other flat and made of platinum. The electric discharge starts from the source of the X-ray, and the focus becomes the point of radiation. By this means the intensity of the ray is increased perhaps a hundred fold. Increase in the intensity of the ray is due to the employment of a platinum disk. To contribute to the intensity, all the gas must be absorbed, and the tube must represent as nearly a perfect vacuum as possible. If the proper vacuum is obtained, and the electric current has a proper intensity, then the platinum disk on which the cathode rays are focussed glows in a small point, which is brought to a white heat, while the remainder of the platinum is only at a dull-red heat. The space inside should be kept at a definite temperature. This is done by heating the tube with a Bunsen burner or a spirit lamp; or, what is still more convenient and reliable, a small platinum-wire helix is placed inside the tube surrounding the glass tube which carries the cathode. This wire is connected to a storage battery, and the heat thus produced will regulate the temperature of the vacuum-tube.

The second device relates to the regulation of the current, and is as follows: Connect one of the electrodes of the vacuum-tube to a brass screw, and regulate properly the length of the air-gap between this screw and one of the poles of the induction-coil.

The speaker also exhibited a skiagram of a fourteen-year-old boy's spinal column, the result of a ten minutes' exposure, and remarked that as the use of the X-ray became more and more perfected the time of exposure was lessened.

The X-ray has many of the peculiarities of many other luminous rays, especially in regard to its being selectively absorbed by substances. It is in this direction that the possibility of differentiating the various internal tissues of animal bodies must be sought.

REVIEWS.

A MANUAL OF PHARMACOLOGY AND THERAPEUTICS. By WILLIAM MURRELL, M.D., F.R.C.P., Physician to and Lecturer on Pharmacology and Therapeutics at the Westminster Hospital, etc. Revised by FREDERICK A. CASTLE, M.D., Member of the Committee for Revision and Publication of the U. S. P., etc. New York: William Wood & Co., 1896.

THE American edition has been considerably changed from the original English form, not only with regard to the necessary alteration of official preparations, but by the introduction of much new matter in the sections on Climate and Natural Mineral Waters, credit being given to Dr. Arthur H. Nichols of Boston, and to Dr. George E. Walton of Cincinnati, respectively. The volume consists of 516 neatly printed pages, without illustrations. The introductory part of 140 pages discusses ancient remedies, sources, and adulterations of drugs, idiosyncrasy, habit, cumulation, incompatibility, etc., and such non-medicinal methods of therapeutics as "venesection," transfusion, electrotherapy, "cures" of various kinds, diet, exercise, etc. Under the head of palatable prescribing, the author regrets the paucity of the vehicles of the British Pharmacopœia. In "The Art of Prescribing," it seems to us that the author has been influenced too strongly by antiquated conceptions. We find no evidence of the principle of giving one thing at a time, and with reference to a definite physiological action. The work is avowedly a student's text-book, yet the author starts with a cough-mixture of morphin and chloroform, which is allowable only in the most exceptional cases. Illustrative of the treatment of dyspepsia—which kind is not stated—we find a mixture of sodium bicarbonate, chloroform and gentian, whose only claim to respectability is its age. Again, we note an acid combination of quinin to be given before meals. The formula of an "excellent purgative pill" is given as follows: Calomel gr. iij, extract of hyoscyamus—enough to make a pill. The American reviser very mildly remarks that "when there is daily need for a peristaltic persuader, calomel is not altogether desirable;" we would add that the propriety of treating extract of hyoscyamus as a mere vehicle, to be used at the pharmacists' discretion, is questionable. We hardly know whether to praise or blame the author for omitting all reference to Latin in prescribing. There follow sections devoted to inorganic subjects, synthetical compounds, vegetable, and animal drugs. One of the most useful parts of the volume is a few pages giving lists of drugs in pharmacological groups. The classification makes no pretense to completeness, and is all the more useful for being clinical rather than strictly scientific. For example, one wishing a diaphoretic has a choice of muscarin, picrotoxin (*sic*), Dover's powder, and several others; "mouth-dryers," producers of glycosuria, vesical, and urethral alteratives, and other therapeutic groups are listed. A number of formulæ are appended, some of which are excellent, others simply time-honored. In the index is included the maximum single adult dose of each drug. On the whole, we are forced to the verdict that the volume does more credit

to the publishers than to the author, and we hope it is not national pride that leads us to say that the work can in no way rival the standard text-books of Wood, Shoemaker, Hare, and other American authors.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D. In Twenty Volumes. Vol. viii: Diseases of the Digestive Organs. 8vo., pp. 667. New York: Wm. Wood & Co. 1896.

This, the eighth volume of the Twentieth Century Practice, represents the work of eight contributors, by whom the subjects have been treated as follows: Diseases of the Mouth, by Johann Mikulicz and Werner Kummel; Diseases of the Esophagus, by Reginald H. Fitz; Diseases of the Stomach, by Max Einhorn; Diseases of the Pancreas, by H. Leo; Diseases of the Peritoneum, by E. Farquhar Curtis; Animal Parasites and the Diseases Caused by Them, by J. Ch. Huber; Treatment of the Diseases Caused by Animal Parasites, by Jas. M. French. As may be seen, the several articles have been mostly written by those especially competent to write upon their respective subjects. The individual contributions are comprehensive, without being redundant, and they represent the most recent views, both pathologic and clinical. The volume altogether maintains the reputation established by its predecessors in the series, and stands upon the high plane aimed at by editor and publishers. It would have been a natural arrangement to follow Diseases of the Stomach by Diseases of the Intestines, then both by Animal Parasites, and finally to group Diseases of the Liver, Diseases of the Pancreas, and Diseases of the Peritoneum together, but we can understand that circumstances beyond immediate control should have necessitated modifications of such a plan. The article on Diseases of the Peritoneum includes a consideration of the subject of appendicitis, as well as of peritonitis, due to perforation of stomach or bowel, and of subphrenic abscess. Although rather a pathologic than a clinical manifestation, abdominal fat-necrosis is so often found associated with disease of or about the pancreas that it would seem to be deserving of notice in a Practice of Medicine.

AN AMERICAN TEXT-BOOK OF APPLIED THERAPEUTICS. For the Use of Practitioners and Students. Edited by J. C. WILSON, M.D., Professor of the Practice of Medicine and of Clinical Medicine in the Jefferson Medical College, Philadelphia, etc., assisted by AUGUSTUS A. ESHNER, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic, etc. W. B. Saunders, Philadelphia. 1896.

This bulky volume of 1326 pages embodies the contributions of the two editors and over forty collaborators, many of them distinguished specialists, teachers, and investigators. Only two of the contributions are from foreign pens—that on malaria, by Professor Laveran of Paris, and that on leprosy, by the late Dr. Beaven Rake, Medical Superintendent of the Trinidad Leper Asylum. The work is essentially one on treatment, as its name, "Ap-

plied Therapeutics," implies, and is an amplification, by skilled writers of similar chapters found in some textbooks on therapeutics.

The subjects have been arranged, so far as possible, upon modern pathologic doctrines, and include most diseases and pathologic processes, as well as a consideration of the disorders of pregnancy. Purely surgical procedures have been omitted.

The articles are well illustrated, when necessary; that on diseases of the mind, by Dr. John B. Chapin, particularly so.

To those who prefer their theory and practice of medicine dismembered, as it were, this book will prove very acceptable; but there are those still among us who cling with fondness to old tomes in which the same master-hand wrote on all branches pertaining to his art.

That specialism has rendered this impossible is partly true and wholly lamentable, for we need carry the same idea on but a few steps and foresee the time when this extreme subdivision of work will invade practice as it has literature; and the already much-tossed-about-and-torn patient, having the etiology, pathology, diagnosis, and prognosis of his disease determined by four separate men, will then be handed on to a fifth for treatment. Whether specialists in euthanasia will then arise to administer permanent relief, time alone will tell.

There is really very little to criticize in the book. Many will not agree with one author that mercuric chlorid is a wise disinfectant for typhoid stools and privy vaults, but this little slip is more than compensated for by the author's loyal advocacy of the bath in the treatment of enteric fever.

It is a pleasure also to note the faith Dr. Danforth has in blood-letting in croupous pneumonia.

Altogether, the work is admirable, up to date, practical, and not too controversial.

A TEXT-BOOK OF HISTOLOGY. Descriptive and Practical, for the Use of Students. By ARTHUR CLARKSON, M.B., C.M., Edin. W. B. Saunders, Philadelphia. 1896.

The aim of the writer of this work on histology has been to furnish the student in one volume of 554 pages, with both the descriptive and practical parts of the science. With this aim two chapters are devoted to the consideration of general histologic methods, and then the different tissues are taken up in fifteen subsequent chapters.

In each chapter the plan of treatment is first to give the finer anatomy and the physiology of the organ or system in question, and then the essential features of microscopic sections prepared from it are fully described. Each chapter is followed by a brief appendix in which the technic of preparation of the sections just described is given. The description is accompanied by carefully drawn plates in the same colors as the microscopic sections present. For example, turning to the chapter on the lymphatic system, there is first given a brief description of the lymph and the lymphatic system. Under the subdivision "Origin of the Lymphatics," the "lymph spaces," "lymph capillaries," "central lacteal of a villus," "perivascular lymphatics,"

"serous cavities," and "synovial sheaths and ursæ" are considered. Under other subdivisions of this chapter are "The Lymph Vessels," "The Solitary Follicles," and "The Lymphatic Glands." The sections described in detail are, (a) the "central tendon of the diaphragm of guinea pig stained with nitrate of silver," and (b) "section of lymph gland of mammal stained with hematoxylin or picrocarmine." Eight drawings in colors appear in connection with this chapter, four of them to illustrate the sections mentioned; one the perivascular lymphatics, while three are diagrammatic representations of a "serous cavity," a "solitary follicle," and "the origin, cause, and termination of the lymph channels."

This sketch of a single chapter will show the plan of the book. The arrangement of subject matter in such a methodical manner, and the excellence of the numerous plates (174 in all), are the features of the histology which will most commend it as a text-book and book of reference.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Vol. XIII. Philadelphia. 1895.

The thirteenth volume of the Transactions of the American Surgical Association, uniform in style with those which have preceded it, is a book of 516 pages. It contains a number of interesting articles, e.g., five upon the "Operative Treatment of Cancer in Various Localities," by Homans, Conner, Wight, McGuire, and Gerster, and four others upon "Restoration of Joint Function after Fracture," by Carmalt, Sayre, Roberts, and Bradford.

It speaks well for some one's power of restraint that among the thirty-three papers there is none upon appendicitis, nor intestinal resection: neither is tuberculosis mentioned.

BOOKS RECEIVED.

Weekly Abstracts of Sanitary Reports, vol. x, 1895. The bound volume of these reports issued from the Surgeon-General's office makes a convenient and valuable book of reference.

Transactions of the Pan-American Medical Congress, held in Washington, D. C., U. S. A., September, 1893. The report is presented in two octavo volumes and occupies 2250 pages. The detail of the various sections as well as that of the general sessions seems complete and full, and makes an interesting and instructive addition to the literature of medicine and surgery. The newest and best thought from every quarter of the American Continent was contributed, and at once gave this congress a high rank among the scientific gatherings which have distinguished the latter part of the nineteenth century. To have distributed free of cost to the medical profession these volumes is an act of liberality on the part of the U. S. Congress, not soon to fade from the grateful minds of the many who have received them.

Transactions of the Michigan State Medical Society, 1896, makes an attractive volume of more than eight hundred pages, and contains many articles of more than passing interest.

Transactions of the Southern Surgical and Gynecological Association, 1895. A handsome volume of three hundred neatly printed pages. The good work so uniformly done by this association leads one to expect fine material in this, the eighth volume, and no sense of disappointment will attend its perusal.

Transactions of the American Orthopedic Association, vol. viii, 1895. This volume contains a large number of handsomely illustrated articles and their discussions, which must appeal to all exponents of this special branch of surgery.